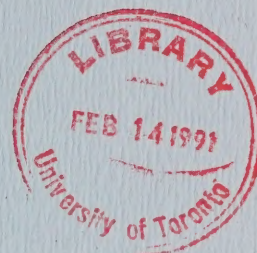


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# ENVIRONMENTAL ASSESSMENT BOARD

VOLUME: 287

DATE: Tuesday, February 5, 1991

BEFORE:

A. KOVEN Chairman

E. MARTEL Member

FOR HEARING UPDATES CALL (COLLECT CALLS ACCEPTED) (416)963-1249

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HEARING ON THE PROPOSAL BY THE MINISTRY OF NATURAL  
RESOURCES FOR A CLASS ENVIRONMENTAL ASSESSMENT FOR  
TIMBER MANAGEMENT ON CROWN LANDS IN ONTARIO

IN THE MATTER of the Environmental  
Assessment Act, R.S.O. 1980, c.140;

- and -

IN THE MATTER of the Class Environmental  
Assessment for Timber Management on Crown  
Lands in Ontario;

- and -

IN THE MATTER of a Notice by the Honourable  
Jim Bradley, Minister of the Environment,  
requiring the Environmental Assessment  
Board to hold a hearing with respect to a  
Class Environmental Assessment (No.  
NR-AA-30) of an undertaking by the Ministry  
of Natural Resources for the activity of  
Timber Management on Crown Lands in  
Ontario.

-----  
Hearing held at the offices of the Ontario  
Highway Transport Board, Britannica Building,  
151 Bloor Street West, 10th Floor, Toronto,  
Ontario, on Tuesday, February 5th, 1991,  
commencing at 9:00 a.m.


-----  
VOLUME 287

BEFORE:

MRS. ANNE KOVEN  
MR. ELIE MARTEL

Chairman  
Member





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I N D E X   O F   P R O C E E D I N G S

<u>Witness:</u>	<u>Page No.</u>
<u>ROBERT MULLER,</u> <u>PETER MORRISON</u> , Resumed	51261
Continued Direct Examination by Ms. Swenarchuk	51262





I N D E X   O F   E X H I B I T S

<u>Exhibit No.</u>	<u>Description</u>	<u>Page No.</u>
1701	Four-page document entitled: Single Industry Forestry Communities, a National and Regional Northern Ontario by J.H. Smith, M. Rodrigue and Nicole Forand.	51309
1702	14-page excerpt from textbook entitled: Forest Economics, Principles and Applications by J. C. Nautiyal.	51341
1703	Hard copy of overhead entitled: Volume of wood cut over time.	51367
1704	CASIT Interrogatory Question No. 11 and response thereto from FFT Panel No. 7.	51405





1 ---Upon commencing at 9:00 a.m.

2 MADAM CHAIR: Good morning. Please be  
3 seated.

4 ROBERT MULLER,  
5 PETER MORRISON, Resumed

6 MADAM CHAIR: Good morning, Dr. Morrison.

7 DR. MORRISON: Good morning. Good  
8 morning, Mr. Martel.

9 MR. MARTEL: Good morning.

10 DR. MORRISON: As you recall, where I was  
11 yesterday was, I had gone through the first two of the  
12 timber management activities, allocating land and  
13 developing access. This morning I would like to  
14 continue with the remaining four: cutting timber,  
15 regenerating trees, tending stands and protecting from  
16 insects and fire.

17 Timber management activities, as I  
18 pointed out at the beginning, need to be considered as  
19 an integrated package, that it's really only for  
20 analytical purposes and for discussion purposes that  
21 we're separating them out.

22 Cutting timber involves three major kinds  
23 of decisions. First is a decision about the stand age  
24 or the age of the stand to be cut; second of all is a  
25 decision about the harvest method to be used; and third

1 is the schedule of cutting over time.

2 With respect to the first decision, the  
3 stand age to be cut, an economist would approach that  
4 decision by asking: At what point does the properly  
5 discounted value of the timber minus the harvesting  
6 cost reach a maximum.

7 And here I've shown the stand age against  
8 the dollars per metre cubed, and we have the value of  
9 timber increasing over time as it becomes suitable for  
10 commercial purposes.

11 CONTINUED DIRECT EXAMINATION BY MS. SWENARCHUK:

12 Q. The witness is using page 9 of  
13 Exhibit 1696.

14 DR. MORRISON: A. Thank you. I will be  
15 going sequentially through the pages of that exhibit  
16 with one exception which I'll note later on.

17 Q. I will call out the page numbers as  
18 you change for the record.

19 A. Thank you.

20 The second curve here, the harvesting  
21 cost, it's generally an inverse relationship between  
22 dollars per metre cubed and the stand age because as  
23 the stand grows the individual trees becomes larger and  
24 it becomes more efficient to use some kind of  
25 equipment.

1                   To properly make this decision we would  
2           need -- to make the decision about the appropriate  
3           stand age, the appropriate rotation age, we would need  
4           to bring those costs back to the present and properly  
5           discount costs and values associated with older stands.  
6           Now, that's if you're simply making the decision on the  
7           basis of the timber in the stand.

8                   The third curve that I've indicated here  
9           is the cost of providing wildlife habitat, and this  
10          indicates the way in which non-timber values might be  
11          brought into and should be brought into the decision  
12          about what the stand age ought to be, the rotation age  
13          or the age at which timber is cut.

14                   And the effect of introducing here the  
15          cost of providing wildlife habitat, would in fact be to  
16          increase the stand age above what it would be with  
17          the -- if you were simply considering -- you were just  
18          considering the timber production.

19                   Q. And why is that, Dr. Morrison?

20                   A. Because the cost of providing the  
21          habitat is higher when the stand is young than when the  
22          stand is old, and this has the consequence that the  
23          costs -- the overall costs are lower when the stand is  
24          older compared to when the stand is younger, and when  
25          you discount back to the present and make a



1 determination of the appropriate rotation age, you find  
2 that the optimal rotation age from an economic sense is  
3 in fact greater.

4 MADAM CHAIR: Dr. Morrison, I don't  
5 understand that. Why isn't the cost of providing  
6 wildlife, or why isn't the market the value of timber  
7 for the cost of providing wildlife?

8 In other words, as the timber resource  
9 ages it becomes more -- as the forest ages it becomes  
10 more valuable for timber, and if you don't cut that  
11 timber, then it becomes valuable for wildlife habitat?

12 DR. MORRISON: I'm not sure I understand  
13 the question.

14 MADAM CHAIR: I don't understand why the  
15 value of wildlife habitat decreases over time.

16 DR. MORRISON: This is not the value of  
17 wildlife habitat, this is the cost of providing  
18 wildlife habitat.

19 MADAM CHAIR: But isn't the cost of  
20 providing wildlife habitat not cutting the trees? In  
21 other words, you use a tree for timber or you use it  
22 for habitat.

23 DR. MORRISON: Okay.

24 MADAM CHAIR: Let me tell you what I'm  
25 thinking, and I might be missing the point you're

1 making entirely.

2 My thought would be that the cost of  
3 providing wildlife habitat would be very inexpensive at  
4 the early successional stage because you wouldn't have  
5 to do anything and, furthermore, you're not losing any  
6 timber when a stand is young, therefore, you're  
7 necessarily providing uncut stands and that can be used  
8 for wildlife habitat -- it's cheap, it's not being  
9 used, well, setting aside regeneration costs or  
10 whatever you've done to get that, and then over time  
11 you're trading off the value of the timber versus using  
12 it for habitat.

13 MR. MARTEL: And my dilemma is just the  
14 opposite. I would think it would be less because there  
15 is very little wildlife, particularly the bigger  
16 species, if my understanding is correct, that use it.  
17 You have marten, you have a couple of species, but most  
18 of them prefer -- for feeding purposes and so on, such  
19 as moose and deer, prefer in the earlier successional  
20 stages.

21 DR. MORRISON: Mm-hmm.

22 MR. MARTEL: So I'm not sure why it  
23 shouldn't get cheaper because fewer frequent it.

24 DR. MORRISON: Okay.

25 MS. SWENARCHUK: I think Dr. Muller wants

1 to jump in here.

2 DR. MULLER: Well, if I could just  
3 suggest a couple of points that might aid in  
4 interpreting this diagram.

5 I'd point out that Dr. Morrison's  
6 declining cost of providing wildlife habitat is drawn  
7 with respect to dollars per metre cubed of wood, so if  
8 you're taking out more wood, then the average cost of  
9 the habitat is going to go down.

10 But more generally --

11 MADAM CHAIR: Excuse me. But if you're  
12 taking out the wood, you're not providing habitat.

13 DR. MULLER: Well, can I suggest to you  
14 another way of looking at the question, which might add  
15 some additional insights.

16 You could think of yourself at any year  
17 deciding whether you're going to delay your harvest one  
18 more year or whether you're going to cut down the trees  
19 now, and one way of thinking about it is to say: How  
20 much do I gain from delaying the harvest one more year  
21 and how much do I lose by delaying it one more year.

22 Well, what we gain from delaying it one  
23 more year is the increment in the value of the timber  
24 that is shown by Dr. Morrison's rising line, and if  
25 wildlife benefits are important, we get another year's



1     worth of wildlife benefits that are of the kind that we  
2     have in mature forests, and the opportunity costs of  
3     delaying this, the loss of interest on the wood that we  
4     would have cut this year and we don't cut until next  
5     year.

6                     What I'm trying to say is the extra --  
7     when there are wildlife benefits around, the benefit of  
8     delaying your harvest one more year may be increased.

9                     And there is a third point that I would  
10    just like to stress that I believe that some  
11    investigations have found that the optimal age for  
12    rotating stands for timber management is different from  
13    the optimal age for rotating for wildlife management.

14                    So you might have a very low rotation age  
15    if you're only job is to produce moose or deer because  
16    of the habitat, or you might have a longer rotation age  
17    if your main interest is in promoting aesthetics of old  
18    growth forests.

19                    MR. MARTEL: But you're storing it. The  
20    increment at that stage is not that significant; is it?

21                    DR. MULLER: At which age?

22                    MR. MARTEL: If you've reached rotation  
23    age and you decide to cut, at least 80 years, the  
24    increment after that isn't much per acre.

25                    DR. MULLER: Well, that's correct, and

1 the question then becomes whether or not the benefits  
2 you're getting each year from the standing forest for  
3 non-timber values offset that declining increment.

4 DR. MORRISON: Thank you, Dr. Muller.

5 DR. MULLER: I hope I didn't drag too  
6 much mud in.

7 DR. MORRISON: Okay. So really what this  
8 is attempting to do then, what the figure is attempting  
9 to do is to show the way in which an economic analysis  
10 can arrive at a rotation age; and, second of all, the  
11 way that by considering the benefits and the costs of  
12 providing wildlife for other non-timber values those  
13 non-timber values can be incorporated into the rotation  
14 decision.

15 I would like to contrast that kind of  
16 economic analysis with the way that rotation ages are  
17 determined as described in the Timber Management  
18 Planning Manual, page 179 through actually 182, because  
19 there are two figures that intervene. This is on the  
20 bottom of page 179:

21 "Ideally trees would be cut at the point  
22 which their annual growth rate equals  
23 the average growth rate over all years.  
24 At this point there is the maximum  
25 average rate of volume interest called

1 the biological optimum rotation.

2 However, for commercial reasons we often  
3 cut later to get trees that are larger in  
4 diameter for certain types of product or  
5 earlier to provide better economic  
6 returns where the diameter of the tree is  
7 not critical as for pulpwood."

8 There's two points I would like to make  
9 from that. One is that the primary emphasis is on a  
10 biological rotation age rather than on an economic  
11 rotation age; hence, there may be a social cost  
12 associated with cutting at the biological rotation age.

13 Second of all, the Timber Management  
14 Planning Manual recognizes that you may deviate or  
15 choose to deviate from that biological rotation age for  
16 economic reasons, but it does not provide a basis for  
17 determining the appropriate rotation age based on  
18 economic considerations.

19 The second decision that is made in  
20 harvesting, cutting timber, is a choice of harvest  
21 method. Now, I understand that the Board has heard a  
22 great deal of evidence about harvest methods and the  
23 appropriateness or inappropriateness of those.

24 I would just like to make a couple of  
25 points about that in this context. One is that



1 clearcutting is by far the dominant means of harvesting  
2 in Ontario on Crown land; second of all, that the  
3 choice of harvest method is not evaluated properly from  
4 an economic point of view, that there is no  
5 consideration given, at least in the documents that I  
6 reviewed, evidence that I reviewed, no consideration  
7 given of the net benefits, the net economic benefits  
8 and there appears to be no systematic incorporation of  
9 the non-timber values.

10 One of the important concerns in  
11 determining what harvest method is most appropriate are  
12 the relative costs and, unfortunately, there are  
13 relatively few data on harvest costs associated with  
14 alternative methods.

15 The best documented study is one that I'm  
16 sure the Board has heard a great deal about, Johnson  
17 and Smyth, 1987, entitled: Harvesting and Renewal  
18 Costs of Strip Cutting Relative to those of  
19 Clearcutting on Shallow Soil Upland Black Spruce Sites  
20 in Northcentral Ontario.

21 There's a number of comments I would like  
22 to make about that study. First of all, it does not  
23 include non-timber values; second of all, the  
24 conclusions that they come to will be sensitive to the  
25 equipment mix that they've used, it will be sensitive

1 to the terrain, it will be sensitive to the experience  
2 of the equipment operators and the layout crews with  
3 alternative methods.

4 The primary effect which they noted is  
5 increased road costs, it is primarily due to the  
6 reconstruction costs primarily of tertiary roads, there  
7 was apparently no consideration given of ways in which  
8 those costs might be reduced.

9 Finally, the net values, as they note,  
10 will differ among the treatments, that they're only  
11 considering the costs:

12 With those qualifications, as I'm sure  
13 you're aware, the study suggests that when harvesting  
14 and renewal costs are integrated, as they ought to be,  
15 that strip cutting and clearcutting are at least  
16 comparable in terms of their costs and, in some cases,  
17 strip cutting exceeds or has substantially lower costs  
18 than clearcutting.

19 There are other studies which are perhaps  
20 relevant to determining the relative economic merits of  
21 clearcutting and modified cutting in some form or  
22 other, but there are difficulties certainly with all of  
23 the studies that I've reviewed and the studies which  
24 are perhaps more relevant in terms of -- or more  
25 accurate in terms of the way that they have compared

1 the costs, the studies from the United States, the  
2 studies from Scandinavia are dealing with substantially  
3 different forest conditions, substantially different  
4 terrain circumstances and, in some cases, different  
5 equipment mixes, all of which will influence costs.

6 MADAM CHAIR: Excuse me, Dr. Morrison.  
7 Ms. Swenarchuk, which source book is the Johnson Smyth  
8 article in?

9 DR. MORRISON: I believe it's already an  
10 exhibit.

11 MADAM CHAIR: Yes. I was wondering --

12 MS. SWENARCHUK: I believe it was in the  
13 source book for witness statement No. 3, and then in  
14 addition I believe it was in the documents filed by Ms.  
15 Cronk in her cross-examination of Panel 3.

16 MS. SEABORN: The Panel 7 source book  
17 indicates that it's in the Panel 5 source book which  
18 would be Mr. Benson's evidence.

19 MS. SWENARCHUK: In addition.

20 MADAM CHAIR: Do you have a number for  
21 that, Ms. Seaborn?

22 MS. SEABORN: Not for the Panel 5 source  
23 book, I'm sorry.

24 MADAM CHAIR: Sorry, Dr. Morrison.

25 DR. MORRISON: One final point I would

1 like to make from the Johnson and Smyth article, and  
2 this is a quotation from the second paragraph on page  
3 14 which is, which reads:

4 "In some cases the organization that is  
5 financially responsible for harvesting is  
6 not the same one that is financially  
7 responsible for renewal costs. In these  
8 situations the most efficient combination  
9 of harvesting and renewal operations may  
10 not be chosen. Because strip cutting  
11 always results in higher harvesting  
12 costs, operations managers who do not  
13 realize renewal savings will, with  
14 justification, discriminate against this  
15 harvesting system. It is unlikely that  
16 strip cutting will gain wide acceptance  
17 until these institutional constraints are  
18 removed."

19 That I would suggest is a description of  
20 the Ontario situation, where the Ministry of Natural  
21 Resources is largely responsible for the renewal costs.

22 The third decision which is made with  
23 respect to cutting timber is the decision about what  
24 cutting schedule to use. This next overhead shows the  
25 increase in roundwood production from Ontario from



1 Crown lands from, looks like before 1870 up to close to  
2 the present and, as you'll see, clearly there has been  
3 a fairly steep increase in roundwood production in  
4 recent years.

5 MS. SWENARCHUK: Q. Dr. Morrison is now  
6 referring to page 11 of Exhibit 1696.

7 DR. MORRISON: A. Thank you. If this  
8 trend continues, as I understand the Forest Production  
9 Policy suggests it will, then we're dealing with a  
10 cutting schedule which is based on increase over time.

11 This I would suggest is in contrast to  
12 the popular idea of a sustained yield which suggests a  
13 constant or even flow over time.

14 Q. Dr. Morrison is now looking at page  
15 12.

16 A. Thank you. With respect to a  
17 specific harvest schedule for a specific forest  
18 management unit, there are a number of variables which  
19 might be included in the determination of an  
20 appropriate harvest schedule.

21 One, if the forest management unit is  
22 typical of many in which there is a decrease in the  
23 volume harvested over time, as you make a transition --  
24 so-called transition from first growth forest or the  
25 natural forest to a regulated or managed forest, there

1 would be a decision about the rate of decline, the  
2 appropriate rate of decline and an associated decision  
3 about the length of the transition period that might be  
4 appropriate. Perhaps more importantly there is also a  
5 decision about what level will be sustained  
6 indefinitely into the future. And each of these is an  
7 economic decision with economic consequences.

8 In particular, there is no one sustained  
9 yield level, there are many, many sustained yield  
10 levels possible, each dependent on a different level of  
11 investment. So that there are many alternatives for an  
12 appropriate sustained yield level.

13 As I'll come to discuss later, the  
14 sustained yield level assumed by the Forest Production  
15 Policy is substantially higher and it's essentially  
16 assuming a high level of investment by -- substantially  
17 higher than the present cut and it's assuming a high  
18 level of investment in the forest by the provincial  
19 government.

20 Are those economic decisions being made  
21 properly by the Ministry of Natural Resources now? We  
22 can get some feel for this by the kind of guidance that  
23 is given, the kinds of recommendations which are made  
24 to the managers with respect to determining the  
25 sustained yield level, the appropriate economic

1       sustained yield level.

2                       Sustained yield is defined in the Crown  
3       Timber Act as follows, it is defined in the Class  
4       Environmental Assessment simply as a continuity of  
5       harvest, so that there is not much guidance given with  
6       respect to the appropriate sustained yield level and,  
7       in fact, this is a much -- the sustained yield as  
8       defined in the Class Environmental Assessment is, I  
9       would argue, such a weak constraint as to be  
10      meaningless.

11                     As other witnesses have pointed out, it's  
12      very difficult to achieve a sustained yield in Ontario  
13      not only because of the lack of economic analysis --  
14      the economic sustained yield, not only because of the  
15      lack of economic analysis, but because there are also  
16      some fundamental gaps in terms of the information.

17                     There is a gap in terms of the link  
18      between the area and the volume and there's a gap  
19      between the volume and the value, the volume and  
20      species and age harvested and the value that might be  
21      obtained from the forest.

22                     There was an additional concern with  
23      respect to achieving sustained yield in Ontario and  
24      that is that under some -- for some management units  
25      and for some working groups there are falldowns

1 expected which in fact will lead to reductions in the  
2 amount that may be harvested on a sustainable basis.

3 This figure shows such a falldown from  
4 the Red Lake Crown Management Unit spruce working  
5 group.

6 Q. Excuse me, Dr. Morrison. The witness  
7 is now referring to page 14 of Exhibit 1696 and the  
8 source for this figure is Forests for Tomorrow Panel 5  
9 witness statement, page 330.

10 MADAM CHAIR: Dr. Morrison, what do you  
11 mean by falldown?

12 DR. MORRISON: A falldown is the  
13 reduction in volume harvested associated with a  
14 transition from a natural forest to a fully regulated  
15 or normal or managed forest, and that's usually  
16 observed because you have high standing volumes in a  
17 natural forest.

18 MR. MARTEL: Can I ask a question? But  
19 if you've got plantations, having listened to the  
20 evidence for the past couple of weeks, just based on a  
21 discussion with a variety of countries and the higher  
22 production in plantations in Finland and Sweden  
23 compared to Canada, it seemed to me that the amount of  
24 production on plantations, the volume, was much higher  
25 than that on the natural forest.



1 DR. MORRISON: That may well be the case,  
2 yes.

3 MR. MARTEL: Then if that's the case --

4 MS. SWENARCHUK: Mr. Martel, I don't know  
5 that we've had evidence comparing volumes taken from  
6 natural versus plantations in those particular  
7 countries. I think we've had evidence that indicates a  
8 higher volume per hectare removal in Finland or Sweden,  
9 but what the relationship is in those countries between  
10 plantation yields, volume yields, and natural forest  
11 volume yields, I don't know that we've seen that.

12 MR. MARTEL: No, but the figure was  
13 certainly given to us a couple of weeks ago that the  
14 volume that can be anticipated off plantations is  
15 higher than the volume taken off natural growth, and  
16 that accounted for why Finland and Sweden were having  
17 smaller clearcuts and had greater volumes overall with  
18 smaller clearcuts than that was taken off in Ontario,  
19 because we had the figures for Ontario and one of the  
20 reasons accounting for that, my understanding was, the  
21 amount taken off the plantations was greater than off a  
22 normal forest were taking them off in terms of Ontario  
23 at least.

24 MR. FREIDIN: I'm just wondering, Mr.  
25 Martel, if you recall - I don't know whether falldown,

1 you know, the falldown decrease from the present down  
2 to where you get even flow in a managed or a normal  
3 forest as explained through that diagram in the  
4 evidence was primarily the result of a change from an  
5 age-class structure which is now overmature, so you  
6 have lots of volume in the overmature and as you even  
7 out the age-class structure the amount which will be  
8 available for harvest at the next rotation, all right,  
9 there will be less area in that age-class so there will  
10 be less volume.

11 MS. SWENARCHUK: Well, I don't think  
12 that's Mr. Martel's question though.

13 MADAM CHAIR: Mr. Martel -- Dr. Morrison,  
14 this is confusing for you because you weren't here - we  
15 received one piece of evidence from a previous witness  
16 for Forests for Tomorrow, Mr. Benson, who showed us a  
17 table that purported to compare yields coming from  
18 stands in certain Scandinavian countries versus  
19 Ontario, we discussed that a bit.

20 DR. MORRISON: Okay.

21 MADAM CHAIR: As Mr. Freidin has pointed  
22 out, the evidence from the MNR is looking far into the  
23 future and what happens when you achieve this so-called  
24 management forest.

25 And my question had to be -- I was

1 getting confused by what you meant by term falldown,  
2 and what you're referring to is the earlier MNR  
3 evidence that shows what happens after the transition  
4 into a managed forest?

5 DR. MORRISON: That's right.

6 MADAM CHAIR: So with respect to  
7 particular yields, that doesn't concern you right now,  
8 you're looking at a situation in the future.

9 MS. SWENARCHUK: Q. Could I ask you, Dr.  
10 Morrison, in relation to this diagram, would you  
11 indicate for Madam Chair what on this diagram indicates  
12 a falldown?

13 A. That would be the lower -- the drop  
14 in volume from the five-year present cut to a later cut  
15 associated with a sustained yield.

16 Q. By a age-class. And would that  
17 falldown occur during the first rotation; that is,  
18 during the process of moving towards the theoretical  
19 normal forest, or as I seem to understand from Madam  
20 Chair's last comment, after the transition?

21 A. It depends on the way that the  
22 harvest scheduling is done. For most harvest  
23 scheduling methods that -- or for many harvest  
24 scheduling methods that are commonly in use, they try  
25 and achieve the so-called normal forest or the fully

1 regulated forest within one rotation period, so that it  
2 would be during the first rotation that we would have  
3 the drop in volume.

4 But I think that Mr. Martel is getting -  
5 perhaps to anticipate - I think he is getting at  
6 another point, which is that if you make a transition  
7 from a fully regulated forest -- sorry, from a natural  
8 forest to a fully regulated forest but you have a very  
9 high level of investment in that, such that you're  
10 making in fact a transition to an intensively managed  
11 plantation, then you may well get a higher yield out in  
12 this -- out in this period out here.

13 MR. MARTEL: Depends on how much you  
14 invest in it then?

15 DR. MORRISON: That's right. And that's  
16 exactly the point that I wanted to make, which is that  
17 where you end up, not only the transition period, but  
18 where you end up in terms of the eventual long-term  
19 sustained yield, if in fact you ever do have that sort  
20 of a sustained yield, what that level is will depend  
21 exactly on the amount of investment you're willing to  
22 make in the forest and what the appropriate level is.

23 And I understand that Professor Benson in  
24 his testimony suggested that that level of investment  
25 ought to be relatively low given the circumstances in



1 the Ontario forests.

2 In any case, what we ought to be doing in  
3 terms of managing Ontario's forests is making that  
4 decision explicitly and on an economic basis giving  
5 full consideration to the benefits and the costs  
6 associated with that.

7 That same point applies to the two other  
8 decisions which I've already discussed, the decision  
9 about the stand age and the decision about the  
10 harvesting method; it ought to be made in full  
11 recognition of the non-timber and non-marketed values  
12 and it ought to be done on the basis of maximization of  
13 the net social benefit.

14 And the consequences of not doing that  
15 are that we're going to be harvesting the wrong amount  
16 of timber, we're going to be cutting it at the wrong  
17 age, with the wrong method, on the wrong cutting  
18 schedule.

19 Okay. What I would like to do now is to  
20 move on to the next timber management activity of  
21 regenerating trees.

22 MS. SWENARCHUK: Q. Now looking at page  
23 15 of the exhibit.

24 DR. MORRISON: A. As this figure shows,  
25 just taken from the Forest Resources of Ontario 1986,

1       there has been an increase in silvicultural activities  
2       in particular an increase in planting and seeding over  
3       roughly the last three decades and that has been --  
4       that has gone along with the increase in the harvest.

5               The question I would like to raise,  
6       however, is: Are we doing too much silviculture or,  
7       alternatively, how much is enough, or how much is the  
8       right amount?

9               And again, this is a question which  
10      forest economists have paid -- have addressed, have  
11      paid attention to, and the kind of considerations that  
12      would go into a comparison, in this case, of a natural  
13      regeneration and an artificial regeneration--

14              Q. This is now page 16.

15              A. --can be represented in the following  
16      figure. We have time along the "x" axis, volume in  
17      cubic metres along the "y" axis, and what I've done  
18      here is to portray the kind of -- the different time  
19      courses that might be associated with an artificial  
20      regeneration program and a natural regeneration  
21      program.

22              And I might point out that I've made some  
23      very conservative assumptions in that I've assumed that  
24      there's -- in comparing the two, I've assumed that  
25      there's going to be a significant regeneration lag for

1 a natural regeneration would begin in terms of  
2 establishment and development of the conifer or  
3 whatever the valued species were.

4 I have also made the conservative, at  
5 least in terms of the comparison between the two,  
6 assumption that the natural stand would have a lower  
7 final volume than the artificially regenerated stand,  
8 and this could lead to a difference in the timing of  
9 the harvest between the two and a difference in the  
10 eventual volume obtained.

11 Now, the way an economist would approach  
12 that decision would be to calculate the present net  
13 worth with the artificial, indicated here by the  
14 subscript "a" and that would be the benefits obtained  
15 at the time of the harvest - we're considering simply  
16 timber production here - minus the costs associated  
17 with the artificial regeneration program, which would  
18 occur here at the beginning of that time period.

19 In contrast we have the present net worth  
20 of the natural regeneration program as the benefits  
21 obtained here at the harvest and the associated volume.

22 Now, I should note that these benefits  
23 and costs will be discounted back to the present, so  
24 that we can in fact compare benefits which occur at  
25 different points in time and costs which occur at

1 different points in time.

2 In terms of determining the net social  
3 benefit, this is at least part of the consideration,  
4 the timber production part of the consideration, the  
5 equation for the artificial regeneration, and this is  
6 the component for the natural regeneration program.

7 There is, however, in this circumstance,  
8 in the situation in Ontario, a difference between the  
9 net social benefit and the way the private benefits or  
10 private net benefits are allocated in that because the  
11 provincial government covers many of the costs of the  
12 artificial regeneration program, the comparison that is  
13 seen by Industry is just the comparison between the  
14 benefits, benefits sub "a" and benefits sub "n" which,  
15 if my conservative assumptions were correct, would lead  
16 them to consistently choose artificial regeneration  
17 over natural regeneration.

18 If government costs are included in the  
19 equation, as they ought to be, then that equation may  
20 well change, as my colleague demonstrated in his  
21 example yesterday.

22 One of the consequences of that  
23 separation or split in cost and who has to pay and who  
24 receives benefits, is that there is an incentive to  
25 do -- incentive for the Industry to have more



1 silviculture done than would be socially desirable,  
2 more artificial regeneration done than would be  
3 socially desirable.

4 MADAM CHAIR: Excuse me, Dr. Morrison.  
5 Is it your view that Industry would never undertake  
6 artificial regeneration without government subsidies?

7 DR. MORRISON: There are -- to my  
8 knowledge there are some circumstances in Ontario where  
9 Industry would carry out artificial regeneration.

10 There are some circumstances in British  
11 Columbia where companies will carry out artificial  
12 regeneration on their lands, but I would suggest that  
13 the extent of those areas and the amount of  
14 silviculture would be much less if the companies were  
15 bearing the full cost of carrying out the silvicultural  
16 program.

17 MS. SWENARCHUK: Q. Why do you conclude  
18 that, Dr. Morrison?

19 DR. MORRISON: A. Because if they are  
20 not -- if the picture is as I've indicated here where  
21 only the benefits are being considered, then there will  
22 be a much -- the present net worth for artificial  
23 regeneration will be much greater than the present net  
24 worth for natural regeneration in this example and  
25 there will be more circumstances, there will be more

1 area in Ontario for which that situation would hold.

2 If in fact those other costs were  
3 included, then obviously, because this is a reduction  
4 in the present net worth associated with the artificial  
5 regeneration, there will be fewer areas in which  
6 artificial regeneration will have either -- will either  
7 exceed the natural regeneration alternative in terms of  
8 its present net worth, or as an alternative comparison  
9 that you might make, there will be fewer circumstances  
10 under which the present net worth of artificial  
11 regeneration will be greater than zero.

12 DR. MULLER: A. Madam Chair, may I just  
13 say that in my case study that I'll be going through  
14 later on today, there is one example in which natural  
15 regeneration yields a small positive net present value,  
16 so a timber company bearing all of the costs and  
17 receiving all of the timber benefits might, under  
18 those -- might in that case undertake natural  
19 regeneration.

20 MR. MARTEL: Have there been any studies  
21 done to ascertain, for example, what was done prior to  
22 the FMAs and what has been done since the FMAs to try  
23 to make a comparison of who might have paid for what or  
24 been prepared to pay for what under different  
25 circumstances? Any reviews, anything?

1 MS. SWENARCHUK: Q. Were you, Dr. Muller  
2 or Dr. Morrison, able to find any such reviews in  
3 preparing testimony?

4 DR. MULLER: A. As far as I'm concerned,  
5 no, I did not come across any particular material which  
6 directly addressed that question, not that I can  
7 recall.

8 DR. MORRISON: Okay. Well, given that  
9 what I've described is, if you like, the approach that  
10 economists would recommend and that ought to be  
11 followed in the forests of Ontario, how do those  
12 compare with the actual procedures.

13 Well, I would turn again to the Timber  
14 Management Planning Manual, page 10 at the very bottom  
15 and here we have the determination of the renewal and  
16 maintenance requirements and, in particular, the last  
17 paragraph:

18 "The determination of requirements will  
19 include such things as choosing between  
20 intensive and extensive management,  
21 include establishing priorities in the  
22 choice of sites, establishing priorities  
23 for maintenance and renewal and  
24 determining the relative return on  
25 expenditures for different alternatives."

1 Well, based on that it would the seem  
2 that the Ministry is actually prepared to conduct the  
3 kind of economic analysis that we have suggested, but  
4 there are appears to be a lack of data to evaluate the  
5 alternatives.

6 I would suggest that the data are simply  
7 not there to properly evaluate the choice between  
8 extensive and intensive management, for establishing  
9 the priorities and the choices of sites, for  
10 establishing the priorities for maintenance and renewal  
11 and, in particular, I have seen no evidence that the  
12 Ministry is determining relative return on expenditures  
13 for different alternatives properly.

14 As we have discussed in the witness  
15 statement, there are the beginnings of the right  
16 approach, notably in Mr. Hynard's document Mr. Hynard  
17 has prepared and his testimony before the Board, but as  
18 we indicate in the witness statement, not -- in his  
19 analysis he has not included all the costs and, in  
20 particular, he has not included non-timber values nor  
21 has Mr. Hynard in his analysis or in his documented  
22 approach properly determined the benefits associated  
23 with different alternatives.

24 What I would like to do now is to turn  
25 quickly to discuss the remaining two timber management



1 activities, tending and protection. As you saw in the  
2 previous graph, I pointed out that planting and seeding  
3 increase over time. There has been quite a dramatic  
4 increase, especially within the last decade, in the  
5 amount of tending, in particular, of herbicide  
6 application that has been carried out in Ontario.

7 In a stand tending, however, is not based  
8 on an evaluation of the net benefits. The NSR  
9 treatment which is discussed in the Timber Management  
10 Planning Manual considers only the costs but it does  
11 not evaluate nor does there appear to be a mechanism to  
12 evaluate whether the present costs -- present levels of  
13 expenditure are appropriate or not.

14 Thus, we're led to the conclusion that  
15 stand tending in Ontario is likely to be occurring in  
16 the wrong places and at the wrong levels. One of the  
17 consequences of that is that there may well be more  
18 herbicide applied in Ontario than there ought to be.

19 And that bias towards the herbicide use  
20 is evident both in the extent and the nature of subsidy  
21 which are provided to Industry and it's also evident in  
22 the lack of consideration in the analysis of whether  
23 that is an appropriate method or not of the  
24 environmental costs.

25 MS. SWENARCHUK: Q. Now looking at page

1 18 of Exhibit 1696.

2 DR. MORRISON: A. Thank you. If you  
3 look here just at the column for herbicide spraying you  
4 see that it has increased very dramatically in this  
5 time period and in fact the increase has continued  
6 beyond this point based on the most recent statistics.

7 So that that bias which is introduced  
8 into the decision-making is in fact having an effect of  
9 increasing the amount of herbicide being applied, in  
10 particular, on the FMA lands.

11 Finally I would like to make one quick  
12 comment about protection, and that is that the  
13 protection ought to be considered as part of the  
14 integrated package, as part of the integrated suite of  
15 timber management activities.

16 By considering it in isolation, by  
17 artificially separating it from the other activities, a  
18 set of options, silvicultural options which are focused  
19 on minimizing the necessity of insecticide, for  
20 example, insecticide protection programs, those  
21 insecticide protection programs tend to receive more  
22 attention and tend to be much more the focus of  
23 activity than if, indeed, we were considering those  
24 activities as an integrated package.

25 And the final comment I would like to

1 make about that set of activities in Ontario is that  
2 not only is there a difference between the way that the  
3 MNR has approached the decision-making, about the  
4 amounts of each of those component activities and the  
5 way that they ought to be -- the way that decisions  
6 about those activities ought to be made based on a  
7 criterion of maximizing social benefits, there is also  
8 a problem in practice which an economic analysis could  
9 also contribute to, and that is the problem of the  
10 planned amounts deviating from the actual amounts.

11 And this is I think fairly clearly  
12 illustrated by this figure which is taken from the  
13 first five-year review of the forest management  
14 agreements.

15 Q. This is page 19 of the exhibit.

16 A. And it shows not only did the amounts  
17 of various activities fall substantially below their  
18 planned levels, but that the relative amounts also  
19 differed quite substantially.

20 So for example tending, which is  
21 primarily an herbicide application, achieved about 75  
22 per cent of its planned level; whereas harvesting and  
23 regeneration achieved only slightly over 50 per cent.

24 And these imbalances between activities  
25 may well be subject, or can be the subject of an

1 economic analysis and, in particular, can be -- the  
2 integration of those activities into a suite of or a  
3 set of timber management activities that are fully  
4 integrated can be facilitated by the kind of economic  
5 analysis that I've been describing.

6 Okay. What I would like to do now is  
7 talk a bit about some of the provincial issues  
8 associated with forest management in Ontario, move up  
9 from the forest management unit level or the stand  
10 level to the provincial level.

11 And now turning to the next overhead--

12 Q. This is page 20.

13 A. --I would like to begin by talking  
14 about the Forest Production Policy. It's a policy that  
15 has, as its central objective, increasing the annual  
16 cut to 25.8-million cubic metres by the year 2020.

17 From an economic perspective the analysis  
18 underlying this objective is flawed. The analysis was  
19 based on an outdated 1967 analysis of demand for timber  
20 products from Ontario that has since proven to be wrong  
21 on a number of accounts; notably the assumption that  
22 the market share for timber products would remain  
23 constant, its market share for Ontario-based producers.

24 The analysis behind the Forest Production  
25 Policy also did not address the economic dimensions of



1 the supply of timber, it did not consider the value of  
2 the timber, nor did it consider the costs associated  
3 with accessing and harvesting the timber.

4 It assumed a level of provincial funding  
5 that has not been met, it is overestimating the  
6 benefits of regeneration programs by using value added  
7 rather than a more appropriate net social benefit  
8 calculation.

9 It misrepresented the timing of the  
10 benefits of the program. It's assuming that the  
11 program could in fact achieve those benefits by the  
12 year 2020 when, in fact, the trees that would be  
13 produced through the program would not be available in  
14 terms of the rotation age until much later than that.

15 I would just like to make a couple of  
16 points about -- illustrate the first and third point  
17 here. The analysis of demand that was contained in the  
18 Forest Production Policy Options Report, that's the  
19 next overhead--

20 Q. That's page 21 of the exhibit.

21 A. --is based on a straight line  
22 projection, based on data that go back, based on data  
23 from 1940 to 1966. So despite all the economic ups and  
24 downs through this time period, including in part of it  
25 the second world war, a straight line projection was

1 made to the year 2020, some 54 years into the future,  
2 and that was the way that the demand for Ontario's  
3 forest products was derived.

4 To illustrate the point that the  
5 provincial -- that the level of provincial funding or  
6 the level of provincial commitment to the Forest  
7 Production Policy has not been met, please turn to  
8 Exhibit 1700.

9 MS. SWENARCHUK: Excuse me, Dr. Morrison.  
10 I don't think -- give them the title, please.

11 DR. MORRISON: It's the Ministry of  
12 Industry, Trade and Technology Report entitled: Review  
13 of Ontario's Forest Management Expenditures and  
14 Revenues.

15 And if you turn to the last two pages of  
16 that, which is Appendix 1, page 5, and Appendix 1 page  
17 6, this is Table A-4, we have the provincial summary of  
18 FPP, Forest Production Policy targets and achievements  
19 by sub-activity.

20 And I would just direct your attention to  
21 the bottom line which for every year from fiscal year  
22 1980-81 to fiscal year 1988-89 shows that the proposed  
23 targets had exceeded the actual targets in terms of  
24 areas treated.

25 MR. FREIDIN: Which line are we looking

1 at here, Dr. Morrison?

2 DR. MORRISON: The bottom line, total all  
3 components.

4 MR. FREIDIN: I'm sorry, I don't have the  
5 right page. What page are you on, page 5?

6 DR. MORRISON: Page 5 and page 6.

7 MR. FREIDIN: Sorry. Thank you.

8 DR. MORRISON: So clearly what is needed  
9 in terms of a more adequate strategic plan for Ontario  
10 would involve consideration of each of the forest  
11 management units, would involve consideration not only  
12 of their biological and ecological constraints, but  
13 would also include a consideration of the economics of  
14 harvesting throughout this part of Ontario.

15 As an alternative to the way that the  
16 Forest Production Policy has approached supply and  
17 demand, we ought to be, as economists and as forest  
18 managers, analysing the future demand for and supply of  
19 timber and other forest services, and we ought to be  
20 answering questions such as: What will be the demand,  
21 both quantity and price, for timber products and  
22 markets served by Ontario-based industry?

23 And attempting to project that into the  
24 future: What will be the volume of timber that could  
25 be supplied at what cost to both Industry and

1 government, and over what time period from Ontario's  
2 forests?

3 Now, that is certainly not an exhaustive  
4 list of questions and it doesn't reflect the other  
5 forest services which will need to be considered.

6 MADAM CHAIR: Excuse me, Dr. Morrison.  
7 Are you saying that MNR isn't considering those  
8 questions?

9 DR. MORRISON: What I'm saying is that  
10 there is a need for an integrated analysis of the  
11 demand -- both the demand for and the supply of timber  
12 and a projection of that into the future and, to my  
13 knowledge, the MNR is not doing that.

14 MR. MARTEL: Do you have any knowledge --  
15 all of us have been waiting breathlessly for the MNR to  
16 produce its new Forest Production Policy - does anyone  
17 have any idea what that is going to be based on?

18 MS. SWENARCHUK: Perhaps -- I assume the  
19 witnesses do not.

20 MR. MARTEL: I'm just asking if they know  
21 because that seems to cry for what might be in the new  
22 Forest Production Policy. I don't know. We don't  
23 know, we're kept in suspense.

24 DR. MORRISON: Right.

25 MR. FREIDIN: Just made a note in my



1       reply list.

2                   MS. SWENARCHUK:   Isn't there an  
3       undertaking to have that provided to the Board as soon  
4       as it's available, not merely a period of reply.

5                   MR. MARTEL:   That's my understanding.

6                   MR. FREIDIN:   There is.   There is.

7                   MADAM CHAIR:   The Board's understanding  
8       is that -- yes, and so far there is no new Forest  
9       Production Policy?

10                  MR. FREIDIN:   Correct.

11                  MADAM CHAIR:   Dr. Morrison, I don't want  
12       to belabour the point, but the two questions you pose  
13       are just so fundamentally basic to any investment  
14       analysis that you would undertake for any project,  
15       whether it be a private or public sector, that you're  
16       not suggesting the Ministry wouldn't do that, that  
17       anybody wouldn't do that?

18                  MS. SWENARCHUK:   Q.   Dr. Morrison, did  
19       the Ministry in preparing the 1972 Forest Production  
20       Policy base its policy on such factors as this?

21                  MADAM CHAIR:   You might disagree with the  
22       way they try to come to terms with demand and supply  
23       projections, but all you have done in those questions  
24       is say:   Yes, you've got to look at both sides of that  
25       equation.

1 DR. MORRISON: Right. In the Forest  
2 Production Policy Options Report I guess it is, 1972,  
3 they address and they acknowledge that they're  
4 addressing in very crude terms what the demand would  
5 likely be for timber products and they address, again  
6 in very crude terms, what the costs might be associated  
7 with the government investment in artificial  
8 regeneration.

9 But that integrated analysis, that  
10 regional kind of analysis considers not just what world  
11 demand in forest products is going to be, but actually  
12 considers where Ontario producers are exporting their  
13 products and considers not just how much wood is in  
14 each forest management unit, but how much wood is  
15 economically accessible and considers with some  
16 specificity what the various investment options are at  
17 the forest management unit level has not been done.

18 MADAM CHAIR: So it's really the latter,  
19 the volume of timber that can be provided and at what  
20 cost to government.

21 Presumably on the first point with market  
22 demand, the Ministry would purchase the best  
23 forecasting it could about what market demand is. It  
24 has very little control over that and presumably it  
25 would buy, as the Industry does, the best statistical

1 projections it can.

2 DR. MORRISON: Right.

3 MADAM CHAIR: But in the second part  
4 you're saying that the MNR should be focusing on the  
5 two separate costs of producing timber and, that is,  
6 the cost by government or to government and what it's  
7 costing Industry.

8 DR. MORRISON: That's right:

9 MADAM CHAIR: Okay.

10 DR. MORRISON: As I'll come back to --  
11 maybe now is a good time to make a point. What used to  
12 be the very last page in that exhibit, which is -- are  
13 we there?

14 MS. SWENARCHUK: Q. It's page 41.

15 DR. MORRISON: A. Page 41 and this is  
16 exhibit...?

17 Q. 1696.

18 A. In 1696. This is a quotation from  
19 the Forest Production Policy Options for Ontario and  
20 I'll just read it:

21 "There is little doubt that future forest  
22 management would be devoted for  
23 multi-purpose use of forest resources and  
24 will require new forest policies based on  
25 expanded and integrated economic analyses

1 reflecting both the consumptive and  
2 non-consumptive values involved."

3 Now, it's one thing to do an analysis of  
4 supply saying that there is "x" amount of wood in a  
5 forest management unit, but it is another thing  
6 entirely to be specific about not only what the demands  
7 are for timber but also for non-timber uses and to  
8 integrate those two.

9 And that is really the point that I'm  
10 making here, is that there's a necessity to analyse the  
11 future demand for supply of timber and other forest  
12 services, so that the forest is managed in an  
13 integrated way to maximize their net social benefits.

14 MS. SWENARCHUK: Do you want to take the  
15 break at this time, Madam Chair?

16 MADAM CHAIR: Sure. The Board will take  
17 20 minutes now.

18 ---Recess at 10:30 a.m.

19 ---On resuming at 11:00 a.m.

20 MADAM CHAIR: Please be seated.

21 DR. MORRISON: Madam Chair, Mr. Martel,  
22 what I would like to do now is continue in the set of  
23 comments that are based on our Section 6 of our witness  
24 statement and, in particular, I would like to talk now  
25 about some of the issues around forest industry



1 employment in Ontario.

2 MS. SWENARCHUK: Q. We're looking at  
3 page 23 of Exhibit 1696.

4 DR. MORRISON: A. There are three basic  
5 points that I would like to make. First of all, that  
6 it's cyclic; second, that it's subject to external  
7 shocks and external forces; third, that it is declining  
8 in relation to the cut and, as a consequence, it's an  
9 unreliable base for stable communities.

10 The cyclicity has been demonstrated both  
11 in Ministry and Industry evidence, the cyclicity is  
12 largely due, if you turn to the next overhead--

13 Q. Page 24.

14 A. --to business cycles predominantly of  
15 the United States. And here you see the graphs of U.S.  
16 housing starts and the way that the fluctuations, the  
17 cycles in U.S. housing starts are reflected in lumber  
18 prices, that in turn will have an impact on employment  
19 in sawmills in Ontario. There is a similar cycle  
20 associated with pulp and paper production corresponding  
21 to the business cycle.

22 With respect to the point that the  
23 employment is subject to external shocks, one need only  
24 point to the 15 per cent export tax on softwood lumber.  
25 A more recent set of shocks is evident in Exhibit 1699

1 which is a Globe & Mail article from December 18th,  
2 1990 which is titled: Newsprint Recycling Projects  
3 Unveiled.

4 And if you look at the top of the second  
5 column of that article, or the bottom of the first  
6 column and the beginning of the second column, the  
7 sentence reads:

8 "The projects are the latest response by  
9 Canadian newsprint manufacturers to a  
10 wave of new U.S./Canadian laws forcing  
11 newspapers to use recycled paper."

12 This is a response to public pressure,  
13 it's a force that is external to the forest industry  
14 but it's one that they are forced to respond to and it  
15 will doubtless have consequences for employment in  
16 Ontario pulp and paper mills.

17 If we look now to the last sentence in  
18 the second column and continues on to the continuation  
19 page, we have:

20 "Analysts say domestic newsprint  
21 producers will lose market share in  
22 1990 to the U.S. industry which has a  
23 lead in making recycled newsprint."

24 So on this basis we might anticipate a  
25 loss of market share which again will have consequences

1 for the Ontario-based industry.

2 The third point I would like to make from  
3 this exhibit is the next sentence, which is the full --  
4 first full sentence in what is in effect the third  
5 column which reads:

6 "Abitibi-Price, which already has a  
7 de-inking mill in Augusta, Georgia and  
8 another under construction in Cleburne,  
9 Alabama, said the mill will produce  
10 newsprint containing 40 per cent recycled  
11 material."

12 So here we would just like to make the  
13 point that we're in the curious situation where  
14 Ontario-based producers are in a sense or are in part  
15 competitors with themselves, they're competing with  
16 plants that they own in the United States or elsewhere.

17 With respect to the third point I would  
18 like to make with respect to forest industry and  
19 employment in Ontario, that it is declining in relation  
20 to the cut.

21 If you turn to the next overhead or the  
22 next page on the set of overheads--

23 Q. This is page 25.

24 A. --if we look at the logging  
25 employment in Ontario per cubic metre harvested over

1 the period 1970 to 1987, on the "y" axis we have  
2 employment per cubic meter, on the "x" axis years.

3 What you see is that over that time  
4 period the number of logging jobs per cubic metre  
5 harvested has dropped by roughly 50 per cent, and it  
6 appears that that trend is continuing.

7 That same trend, that same downward trend  
8 in employment per cubic metre harvested is evident in  
9 the next overhead--

10 Q. Page 26.

11 A. --which shows a similar drop in  
12 employment for all forest industry. So this includes  
13 sawmilling industries and pulp and paper industry as  
14 well.

15 That drop in employment per cubic metre  
16 harvested combined with the other two factors, means  
17 that industries that are dependent upon -- or  
18 communities -- sorry, communities that are dependent  
19 upon the forest industry face a number of problems;  
20 they face cyclicity, they face the possibility of  
21 external shocks as a result of new legislation in the  
22 United States, for example, with respect to recycling,  
23 they face the possibility of shutdowns as a result of  
24 corporate decisions shifting plants from one location  
25 in North America to another or elsewhere in the world,



1       they face the possibility -- they face the situation  
2       where, in order to maintain constant employment  
3       levels - which I might argue is a prerequisite for a  
4       constant or a stable community - the cut must increase.

5               See, they are essentially on a treadmill  
6       which I described in the witness statement as being  
7       similar to the situation faced by the Red Queen in  
8       Alice in Wonderland, she has to run faster and faster  
9       just to stay in the same place.

10              What then is the future for these forest  
11       based communities? If you look at the next overhead--

12              Q.   Page 27.

13              A.   --you see that for most of these  
14       forest resource based communities in northern Ontario  
15       there has been a decline in population from 1981 to  
16       1986 with very few exceptions.

17              This decline in population is also  
18       evident in the next overhead--

19              Q.   Page 28.

20              A.   --at a regional level where on the  
21       basis of districts in northern Ontario and indeed for  
22       northern Ontario as a whole we have a decline in  
23       population between 1981 and 1986 of 3.2 per cent. This  
24       contrasts with increases for Ontario as a whole of 4.8  
25       per cent.

1                   What this means is that, two implications  
2       of this; one is that there is mobility of people,  
3       people are leaving northern Ontario; second of all, it  
4       forces us to ask the question of what's a reasonable  
5       expectation or what can we reasonably expect for those  
6       forest based communities?

7                   And what I would like to do now is to  
8       read a brief excerpt from a document which was, I  
9       believe, entered as an exhibit by the Industry in panel  
10      2 -- in their Panel 2 which is entitled: Final Report  
11      and Recommendations of the Advisory Committee on  
12      Resource Dependent Communities in northern Ontario.

13                  MS. SWENARCHUK: Madam Chair, I will have  
14      to get the exhibit number. Sorry, I don't have it.

15                  MADAM CHAIR: Thank you.

16                  DR. MORRISON: And on page 3 and 4 of  
17      that document it lists a number of problems associated  
18      with the northern Ontario resource dependent  
19      communities. They include: resource depletion,  
20      vulnerability to world commodity prices, vulnerability  
21      to corporate policy changes, the cyclical nature of  
22      resource industries, modernization with associated  
23      employment and employee reductions, community problems  
24      associated with new resource developments, competition  
25      with Third World resources increasing and changing

1 unemployment rates, declining population, the magnet  
2 effect of the Golden Horseshoe centralization, loss of  
3 youth, difficulty of attracting and keeping  
4 professionals in the north, climate, social problems  
5 associated with an uncertain future, high costs of  
6 living and of doing business, high cost and  
7 availability of transportation, distance to market and  
8 population centres, and sparse population.

9 Those communities are faced with a  
10 daunting set of problems. The report makes a number of  
11 recommendations in a wide variety of areas about ways  
12 in which those problems might be addressed.

13 One of the fundamental approaches that  
14 forest industry based communities in Ontario have  
15 attempted to respond to the problem facing them is by  
16 diversification. What I would like to do now is refer  
17 briefly to -- do we have an exhibit number yet for  
18 the --

19 MR. COSMAN: Can you just tell us what  
20 this document is you're reading from, because we don't  
21 have it.

22 DR. MORRISON: Okay. The next document  
23 that I'm going to be referring to, we have copies  
24 here--

25 MS. SWENARCHUK: (handed)

1 DR. MORRISON: --is entitled -- by J. H.  
2 Smith, M. Rodrigue and Nicole Forand, and it's  
3 entitled: Single Industry Forestry Communities, a  
4 National and Regional Northern Ontario profile.

5 MADAM CHAIR: Excuse me, Dr. Morrison.  
6 That will be Exhibit 1701.

7 DR. MORRISON: Thank you.

8 MADAM CHAIR: And it comprises four  
9 pages.

10 ---EXHIBIT NO. 1701: Four-page document entitled:  
11 Single Industry Forestry  
12 Communities, a National and  
13 Regional Northern Ontario  
by J.H. Smith, M. Rodrigue and  
Nicole Forand.

14 MR. FREIDIN: 170...?

15 MADAM CHAIR: One, Mr. Freidin.

16 MR. FREIDIN: 1701.

17 DR. MORRISON: And I'll refer you to  
18 pages 17 first and then 18. Beginning on page 17 in  
19 the third paragraph is a discussion of the concerns in  
20 the Town of Espanola, an example of a forest industry  
21 dependent town in Ontario. It goes on to quote then:

22 "The Town of Espanola recognizes that  
23 continued total dependence on the pulp  
24 and paper mill to sustain the current  
25 level of economic activity and stability



1 over the long term is unrealistic.  
2 Diversification of the economic base is a  
3 goal but an extremely difficult one to  
4 achieve in view of the size and location  
5 of the town."

6 And it goes on to describe a recent  
7 attempt to attract small secondary industry and an  
8 attempt to develop tourism in the town. The next  
9 paragraph reads:

10 "Diversification of the town's economy  
11 will be an expensive, time consuming and  
12 long-term undertaking. There are,  
13 however, government programs in place  
14 that can assist in the process but the  
15 Onus is on municipal leaders, the  
16 business community, community residents  
17 and the major employer working together  
18 to accomplish this."

19 Turning to the next page --

20 MR. MARTEL: Has anyone ever -- I've read  
21 these comments, it seems like a thousand times. Has  
22 anyone ever decided how they could do something about  
23 it, outside of writing reports?

24 DR. MORRISON: Well, I guess it would be  
25 a question of acting on the reports and acting on some

1 of the recommendations.

2 MR. MARTEL: That's right. But we  
3 haven't acted on it.

4 DR. MORRISON: No. There have been  
5 various attempts at various levels by provincial  
6 government agencies and provincial government  
7 ministries to do that and, to some extent, the attempt  
8 to increase the harvest from Ontario's forest is an  
9 attempt to do that.

10 MR. MARTEL: But that is an obvious  
11 contradiction to where we've been going, that the  
12 forestry is the problem, then to increase the amount of  
13 reliance on forestry is directly at odds with what  
14 you're saying.

15 I mean, you can't increase -- say, that  
16 we're at high risk with forestry--

17 DR. MORRISON: Mm-hmm.

18 MR. MARTEL: --and then say that the way  
19 to increase jobs is to make more reliance on forestry.

20 DR. MORRISON: I agree, but my  
21 understanding of the situation in Ontario has been,  
22 based on the documents that I've reviewed, is that  
23 increasing cut has been one response to the instability  
24 and the concerns for community stability in some of  
25 those communities.

1 MS. SWENARCHUK: Q. Dr. Muller, do you  
2 have any comments?

3 DR. MULLER: A. Mr. Martel, I hope I  
4 don't appear to be too heartless in what I'm going to  
5 say, but what we're observing I think is a set of  
6 economic signals which are telling us that development  
7 in many of these northern towns is not profitable in  
8 the broadest sense once the economic base which  
9 originally led to their establishment has diminished or  
10 disappeared.

11 And I think that in the very broadest  
12 sense there's an issue about whether we as a society  
13 want to struggle against the tide of economic  
14 developments, in this case by forcing diversification  
15 and development where none is appropriate, given the  
16 current market signals, or whether we want to go with  
17 the tide, recognize what is happening in the world and  
18 try to make the adjustments to what's happening as fair  
19 and as easy as possible for the people who are badly  
20 affected by it.

21 The point is really dramatically put when  
22 you consider a small resource based town that's built  
23 entirely to service a gold mine shall we say. Once the  
24 gold mine is exhausted, is there any particular reason  
25 why we should leave the town there?

1                   It seems to me much more reasonable to  
2     plan from the beginning for the temporary nature of  
3     this particular town and to make sure that everybody  
4     participating in the town realizes that its base is in  
5     this particular gold mine, when the gold mine is  
6     exhausted, we have to make sure that provision is made  
7     for reallocating people.

8                   I know that this sounds heartless, but it  
9     seems to me that we have to be aware--

10                  MR. MARTEL: Or you don't build the town?

11                  DR. MULLER: Sorry?

12                  MR. MARTEL: Or you shouldn't build the  
13     town and everybody should be commute.

14                  DR. MULLER: Well, if that's the lowest  
15     cost alternative. It's certainly true with projects in  
16     the far north, there's a growing tendency to fly people  
17     in, have them work for a few weeks, and then fly them  
18     back out. That saves the cost of building all the  
19     infrastructure. But, of course, that possibility  
20     wasn't available 50 years ago when these small  
21     communities were built in the first place.

22                  The real question I think that has to be  
23     addressed with respect to very small resource based  
24     towns is whether or not the tide is running in the  
25     direction which allows them to be viable at all. I



1 know that that sounds like a heartless statement, but I  
2 do think that we have to -- you ask: Why hasn't  
3 something been done about the reports that promote  
4 diversification, and it may be that the forces against  
5 diversification are so great that it's very difficult  
6 to do much.

7 MADAM CHAIR: Would you agree, Dr.  
8 Muller, that what you're saying of course makes  
9 wonderful sense, but public policy is not driven by  
10 good economic reasoning, and some of these questions  
11 will not be decided by economic analysis and in terms  
12 of public policy and political interests, occasionally  
13 there is a definition of the need for a community to  
14 exist beyond any economic value.

15 DR. MULLER: Madam Chair, I would  
16 certainly agree that these decisions are not uniquely  
17 determined by economic analysis, and I would certainly  
18 agree that the maintenance of the values associated  
19 with a stable community is an important and legitimate  
20 goal of public policy.

21 What I'm suggesting though is that even  
22 if you place those values very high in your scale of  
23 priorities, you have to be aware of what you're  
24 fighting against and wishing that there was an economic  
25 base in a community when none exists is not a good

1 basis for public policy either.

2 I saw Mr. Martel start, I'm not quite  
3 sure why.

4 MR. MARTEL: Well, you see, people in the  
5 north happen to believe they have an economic base,  
6 that people in the south have been exploiting it and  
7 determining where the decisions would be made as to  
8 where those resources would be not only extracted but  
9 utilized, and that's the real question.

10 It's not a question of whether the  
11 economics is there; one only looks at the forest  
12 industry and they decided to build most of their mills  
13 in southern Ontario, or a lot of their mills, when the  
14 wood was actually being extracted in northern Ontario.

15 Those were decisions that were made  
16 regardless of the people of northern Ontario and their  
17 needs and that's still occurring.

18 If one looks at other jurisdictions, for  
19 example, Sweden which has modern cities that build  
20 trucks, scarifiers, medical centres all north of the  
21 Arctic circle and in Ontario we haven't made a decision  
22 to make anything beyond 401 -- north of 401, everything  
23 is south of that -- the Macon/Dixon line.

24 DR. MULLER: Well, Mr. Martel, I agree  
25 that --

1 MR. MARTEL: It's a will that's got to be  
2 there. I think what my colleague is saying, there's  
3 got to be a will to make northern Ontario viable.

4 DR. MULLER: Well, there is also a  
5 question of how much it costs and what I earlier called  
6 crudely measured net present value.

7 MR. MARTEL: But, Dr. Muller, there's how  
8 much you take out of an area that the worth of what  
9 comes out of an area that should go into that equation  
10 then; shouldn't it, in terms of the resource, whether  
11 it be mineral, pulp, paper, wood and what comes out and  
12 what returns to the north, that has sort have been not  
13 really balanced over the years, I would suspect.

14 DR. MULLER: Well again, Mr. Martel, I  
15 can only comment as an economist and suggest to you  
16 that it's all -- it continues to be a question of  
17 balancing off this issue of the size of the pie versus  
18 the distribution of the pie, and what I'm suggesting to  
19 you is that the --

20 MR. MARTEL: But isn't it what you decide  
21 to do with the pie and where you decide to do it, that  
22 a lot of things have been located in and around Toronto  
23 because that's where the capital markets have been  
24 traditionally, that's where the market for the  
25 utilization has been and, therefore, you extract it

1 from the hinterland.

2 DR. MULLER: Well, I agree and I think  
3 also that locating activities in southern Ontario  
4 imposes environmental costs in southern Ontario as well  
5 and, consequently, there may well be a case for trying  
6 to promote development in northern Ontario.

7 The question though is: Why hasn't it  
8 occurred already? It hasn't occurred already because  
9 it has not been profitable. Why has it not been  
10 profitable? Well, the market signals that we're  
11 getting right now suggest that it's not profitable.

12 We then have a problem: Are these market  
13 signals so seriously distorted from what is really the  
14 fundamental social cost effects that we want to invest  
15 in big development projects, or do we want to say:  
16 Well, these market signals are approximately correct  
17 and what we have to do is ease the adjustment of  
18 people.

19 MR. MARTEL: But haven't we  
20 traditionally -- we haven't put all the economic  
21 factors in. For example, you take raw material out at  
22 a far greater reduced cost, railway wise, shipping  
23 prices, contracts, negotiations which really insist  
24 almost that you get those rates so that you can produce  
25 it in southern Ontario.



1                   You get special freight rates to haul raw  
2   material out raw, rather -- because despite the fact  
3   that it takes a lot more train loads of material to  
4   bring it out than if you were to produce it.

5                   I mean, all of those factors weren't  
6   determined by the good economics of whether it would  
7   occur but where markets -- where capital markets were,  
8   where other markets were for the sale of those  
9   products, a whole series of other factors, political  
10   decisions that had nothing to do with the economics of  
11   the area and where the free enterprise system wanted to  
12   locate based on the amount of money it could get out of  
13   governments in terms for expansion or -- I mean, all of  
14   these factors are part of that equation that have  
15   mitigated against northern Ontario having some sort of  
16   proper development.

17                  DR. MULLER: Mr. Martel, the point you  
18   make, especially about the distorting effects of  
19   transportation tariffs and so forth are very important.

20                  The suggestion I was making was only  
21   this: If you did a proper social cost/benefit analysis  
22   you might indeed find that development in northern  
23   Ontario was a good thing to promote and that we should  
24   be looking at whatever it is that is preventing it and  
25   trying to ease these constraints. That is one

1 possibility.

2 Another possibility is that even after  
3 making all the adjustments that we have just spoken  
4 about there are some communities in northern Ontario  
5 where promoting development actually is not a good  
6 thing in the sense that it reduces the total size of  
7 the economic pie.

8 And my comment was simply directed at the  
9 possibility that in some cases -- in some cases, not  
10 all, we have to accept that communities are going to be  
11 borne and communities are going to decline and that  
12 there is nothing much that we can do about it, except  
13 to make life easier for the people who are in those  
14 communities.

15 You don't buy it? Well...

16 MR. MARTEL: I'm just saying we don't  
17 make life easier for people. I mean, people lose their  
18 homes, they walk away. And when one looks at Sault  
19 Ste. Marie, we're faced with a dilemma because of  
20 resource extraction and so on.

21 Wawa will go down the tube if Sault Ste.  
22 Marie fails. Sault Ste. Marie is in serious financial  
23 trouble now, Elliott Lake sits next to another mining  
24 community that's going down the tube. What do you do  
25 with those three communities? I mean, where would you

1 ever move them all if you didn't take some other factor  
2 into --

3 What would you do with them, and how  
4 could you be generous and move -- people who are going  
5 to get \$2,000 for their house in Wawa when they sell  
6 it, if they can sell it, and move to Toronto without a  
7 job, without the appropriate training and \$2,000 in  
8 their pocket that they got for their house when they  
9 left Wawa.

10 DR. MULLER: Mr. Martel --

11 MR. MARTEL: How generous are we prepared  
12 to be?

13 DR. MULLER: This is a long way from the  
14 actual environmental assessment of particular forest  
15 management techniques, but I think the points you raise  
16 are legitimate and I think that a political party with  
17 which you're familiar suggests that an appropriate way  
18 of dealing with this is, when you think of setting an  
19 industry in a relatively risky area there ought to be  
20 some kind of trust funds established or some kind of  
21 provision made towards the eventual closing down of the  
22 operation.

23 In other words, the moving of people into  
24 an area and the moving of people out of an area is a  
25 cost which may have to be borne. It's not at all clear

1 that it ought to be borne by the individual workers who  
2 are going in and out, maybe it's a cost that ought to  
3 be built into the planning decisions, the accounting  
4 costs of the companies that are doing the investment in  
5 the first place.

6 But to say that isn't to say -- I mean,  
7 to say that is not to deny the possibility that from a  
8 social point of view it may be better to allow some  
9 communities to decline. And I'm sorry if it sounds  
10 heartless.

11 MADAM CHAIR: I think what Mr. Martel has  
12 given you is the benefit of that northern Ontario  
13 perspective and at this hearing we have all been very  
14 sensitive to the fact that there's a certain chauvinism  
15 on the part of southerners that we're constantly--

16 DR. MULLER: Fighting against.

17 MADAM CHAIR: Not fighting against, that  
18 we accept and that we try to make sure that northerners  
19 very much are key participants and are very active in  
20 this process and in the final decision that we will  
21 make, and it's of great benefit to us to debate those  
22 kinds of north/south issues.

23 DR. MORRISON: If I might just add to  
24 what Professor Muller has said. If there are indeed  
25 those kind of institutional barriers to market signals,



1 then those ought to be identified, and we ought to be  
2 identifying what are the constraints on development in  
3 the north, whether they are embedded in government  
4 policy and patterns of government expenditures and to  
5 what extent they are, if you like, undiluted market  
6 signals. And to the extent that they are  
7 institutionally imposed or politically imposed, then  
8 obviously we can correct those. As I'm sure you're  
9 aware, there are a number of those institutional kinds  
10 of barriers.

11 Just maybe now I can -- having set the  
12 context now for our last quote from the Single Industry  
13 Forestry communities paper that I'd like to give,  
14 beginning on page 18, the last and full paragraph  
15 there:

16 "The most immediate concern and challenge  
17 for rural single industry communities in  
18 Canada is the diversification of their  
19 economic base. Many communities --"

20 MR. COSMAN: I'm sorry, where are you  
21 reading from now?

22 DR. MORRISON: Page 18, top of page 18.

23 MS. SWENARCHUK: Exhibit 1701.

24 DR. MORRISON: Sorry, I'll begin  
25 again.

1 "The most immediate concern and challenge  
2 for rural single industry communities in  
3 Canada is the diversification of their  
4 economic base. Many communities are  
5 attacking this problem with enthusiasm  
6 and vigor, seizing community's  
7 opportunities that were not taken when  
8 times were prosperous. For other more  
9 remote communities, diversification will  
10 be more difficult if not impossible."

11 The next issue I would like to discuss,  
12 beginning with the next overhead, is the willingness to  
13 pay which might exist for some of the changes that we  
14 suggested.

15 MS. SWENARCHUK: Q. Excuse me, Dr.  
16 Morrison, I don't see this in my --

17 MADAM CHAIR: Page 32.

18 MS. SWENARCHUK: Q. Yes, page 32, sorry.

19 DR. MORRISON: A. The willingness to pay  
20 which might exist for some of the concerns which we  
21 have been discussing, and I would draw the Board's  
22 attention to Items 1, 3 and 4 for Ontario.

23 This is based on a survey that was done  
24 and it's an attempt to represent public attitude  
25 towards the management of forest resources.

1 MR. FREIDIN: Madam Chair, I'm not going  
2 to object to this evidence being led, but I would refer  
3 the Board to the earlier discussion we had about the  
4 submission of public opinion polls.

5 You recall that the Board had ruled that  
6 they were inadmissible at that time I believe and the  
7 weight it would give to them would be very slight  
8 without someone being called to explain how it was  
9 done.

10 You recall Mr. Hanna in fact had  
11 undertaken in fact to lead the evidence as to how a  
12 public opinion poll was done so that he could in fact  
13 submit it. I just remind the Board of that discussion  
14 and that ruling.

15 MR. COSMAN: Actually just before Ms.  
16 Svenarchuk responds, I would support Mr. Freidin in  
17 that and the reason being is that as boards and courts  
18 and other tribunals have come to realize that without  
19 knowing the basis, without understanding how an opinion  
20 poll has been obtained or the size of the sample,  
21 you're in a position where it has very little weight.

22 I mean, you can have ten opinion polls,  
23 as anybody with any experience in public affairs knows,  
24 that say very differenty things and without that it can  
25 be used to try to attempt to persuade a tribunal or

1 board such as yours and that you will not have the  
2 basis to really give it any judgmental weight because  
3 you won't know what's behind it and you won't have the  
4 experience and the knowlege of the poll itself on which  
5 you can yourself make any judgments.

6 And that's why this Board earlier and  
7 other boards have not admitted them in evidence.

8 MS. SWENARCHUK: Madam Chair, my  
9 understanding of the law is that it is well accepted  
10 that an expert is entitled to use this evidence as part  
11 of the basis of his or her opinion of a certain  
12 subject, and we are confident that the Board can attach  
13 to this information the correct degree of weight.

14 If in fact in addition to that Mr. Hanna  
15 produces a witness later on this specific poll, that  
16 should be of even more assistance to you. However, in  
17 my understanding of the law there's no reason why this  
18 evidence should be excluded.

19 MR. HANNA: Madam Chair, just before you  
20 rule on that, I just want to make it clear that the  
21 witnesses that we are proposing calling I don't believe  
22 were responsible for this sample -- this opinion poll.

23 The one we are intending to call is the  
24 Environics poll which was done for the Canadian  
25 Forestry Service.



1 MADAM CHAIR: Thank you, Mr. Hanna.

2 Well, certainly the Board has let in some  
3 data over the course of this hearing on surveys. We  
4 did let in the CSW, the Canadian Wildlife Service  
5 survey which was not strictly a public opinion poll,  
6 but could be construed as being akin to one.

7 The Board will put the weight that it  
8 feels this evidence merits and certainly we won't be  
9 basing our decision on the results of public opinion  
10 polls, but if this material helps you explain to the  
11 Board a point you want to make, then you're free to do  
12 that.

13 DR. MORRISON: Okay, thank you.

14 The point I would like to make from this  
15 summary of the survey which was done - just note the  
16 sample size there - are, first of all, that when asked  
17 to respond to the question here: The company should be  
18 free to harvest forests without government regulation,  
19 the majority of people across Canada and in Ontario  
20 agreed that -- disagreed with that statement.

21 So I would conclude from that that, as we  
22 did suspect, based on looking at various legislation  
23 and regulations that there is an acceptance, political  
24 public acceptance of the need for government  
25 regulation.

1                   The third item: In recent years more  
2 trees were cut down compared to the number of trees  
3 planted. The majority of people in Ontario and the  
4 majority of people across Canada agreed with that  
5 statement.

6                   And the conclusion I would draw from that  
7 is that -- there is two conclusions I would draw from  
8 that; one is that there is concern about the way  
9 forests are being managed, specifically with respect to  
10 whether the yield is sustainable or not - and that I  
11 would argue is also reflected in the Crown Timber Act  
12 in the requirement that the yields be sustained there -  
13 and, secondly of all, that there is a perception on the  
14 part of the public, and I suspect that that's borne out  
15 by a number of other publications, that the forests are  
16 not being well managed and, specifically, that more  
17 trees are being cut down than are being planted.

18                  And the last point, that forests should  
19 not be exploited economically at all. I would point to  
20 the very comparable figures or the very similar figures  
21 of people who agreed with that statement and the people  
22 who disagreed with that statement in Ontario, which  
23 suggests to me that there is -- well, it could be  
24 interpreted as suggesting that roughly half the people  
25 in Ontario support turning the forests in Ontario

1 essentially into a recreational reserve.

2 The importance of that point though is  
3 that there may be quite a high willingness to pay for  
4 some of the non-timber benefits of the forest in  
5 contrast to the timber benefits, and that high  
6 willingness to pay may support higher taxes, may  
7 support the kind of initiatives that we are -- that  
8 Forests for Tomorrow is advocating.

9 MADAM CHAIR: Dr. Morrison, can you  
10 review for the Board again what is the way -- how does  
11 one verify what the willingness to pay actually is?

12 DR. MORRISON: Okay. The willingness to  
13 pay can be estimated in a number of different ways.  
14 Dr. Muller reviewed some of them yesterday.

15 There are a number of different  
16 approaches to that. One that is becoming increasingly  
17 well accepted is what is known as the contingent  
18 evaluation method, which essentially involves asking  
19 people a series of structured questions designed to  
20 minimize the kind of biases that were discussed  
21 yesterday in the questions in an effort to assess how  
22 much they would be willing to pay, perhaps through  
23 increased taxes or perhaps through some other  
24 mechanism, for a particular good or service.

25 Now, it could be as intangible as the

1 existence of a certain amount of old growth forest or  
2 it may be as specific as a willingness to pay for a  
3 specific development in their particular community.

4 MADAM CHAIR: Do you know of any  
5 situation where public policy and also a taxation  
6 policy was made on the basis of such information?

7 DR. MORRISON: Well, certainly  
8 willingness to pay is extensively used in the National  
9 Forest planning process in the United States,  
10 willingness to pay for non-timber values.

11 I'm not aware of whether that in fact has  
12 been translated into a taxation policy because access  
13 to the forests can be controlled to some extent.

14 A more appropriate way might be to use  
15 user fees or licensing fees to obtain the benefits or  
16 to, I guess, essentially produce -- attach a value to  
17 those benefits.

18 MR. MARTEL: The figures 48 and 49 per  
19 cent, is that further broken down, do you know, as to  
20 where the questions were asked?

21 In other words, what percentage of the  
22 people asked responded that we shouldn't do anything  
23 exploitive in the forest from northern Ontario as  
24 opposed to those from southern Ontario? I mean, I'm  
25 sure you would get a different answer.



1 DR. MORRISON: I suspect you're quite  
2 right and an indication that you're right comes from --  
3 comes when you compare the figures in Ontario with the  
4 figures in western Canada which would be -- which would  
5 include British Columbia which is more dependent on  
6 forestry than Ontario is, at least in terms of  
7 proportion of provincial gross domestic product, and  
8 there there's a high proportion of people who disagree  
9 with that statement.

10 Similarly, for one of the other major  
11 forest producing provinces in Canada, in Quebec there's  
12 a high proportion, roughly a quarter of the people,  
13 disagree with that statement.

14 MR. MARTEL: Why does Quebec though  
15 differ so significantly with Ontario? I mean, if one  
16 looks at forestry --

17 MADAM CHAIR: Why not?

18 MR. MARTEL: Well, they do on most other  
19 things, but --

20 MR. COSMAN: Was there an answer to Mr.  
21 Martel's question though? Does the witness know where  
22 the --

23 DR. MORRISON: No, I don't know the  
24 answer to that, but an indication of what that  
25 breakdown might have been is given by the other figures

1 from the other provinces.

2 MS. SWENARCHUK: Q. Dr. Morrison, can  
3 you just remind us what percentage of the population of  
4 Ontario is represented by the northern communities?

5 If you're not aware of it, we could check  
6 the figure and come back to this later.

7 A. I can give you the figure in just a  
8 second here. Okay. This is -- I'm referring now to a  
9 page which was not excerpted in Exhibit 1701, this is  
10 page 7, and the statement is here:

11 "Given that northern Ontario represents  
12 about 9 per cent of the population of the  
13 Province of Ontario..."

14 MS. SWENARCHUK: Q. Thank you. That is  
15 not -- that page containing that is not included in  
16 your excerpt.

17 A. But I believe a similar figure or the  
18 same figure would be found in MNR evidence for Panel 5.

19 So the point here then is that there is a  
20 potentially a high willingness to pay on the part of  
21 people in southern Ontario for the kinds of  
22 recreational benefits and other benefits that would be  
23 associated with not exploiting the forests economically  
24 in the rest of the province.

25 MADAM CHAIR: Excuse me. And again, how

1 would you actually test that? For example, you said  
2 perhaps introducing user fees would be one way to do  
3 it.

4 DR. MORRISON: Right.

5 MADAM CHAIR: And if you introduced user  
6 fees on an experimental basis and consumption of  
7 recreational resource, however--

8 DR. MORRISON: Right.

9 MADAM CHAIR: --whatever it is declines  
10 over a year or two, then would you arrive at the  
11 decision that people weren't willing to pay for that  
12 activity?

13 DR. MORRISON: No, no. It would be a  
14 little bit more complicated than that, because what you  
15 would be doing, what you would want to do would be to  
16 assign user fees such that you obtained the maximum --  
17 sorry, you would want to assign user fees at a level  
18 that the -- not that the amount of use was declining  
19 because for some people they would cease to use that  
20 resource or that recreational opportunity if a fee goes  
21 up even a marginal amount of 25-cents.

22 But what you are after with assigning  
23 user fees is to extract or to obtain a measure of the  
24 consumer, what's known as the consumer surplus and it's  
25 the net benefit that users obtain from -- the net

1 aggregate benefit that users obtain from an inaggregate  
2 use of that resource.

3 MR. MARTEL: Wasn't there a real concern  
4 though a number of years ago the first time a licence  
5 fee was put on for fishing, the government I believe  
6 ultimately withdrew it for a period of time and then  
7 the government reintroduced it in '85 or '86 with a  
8 guarantee, and the only way it could get through the  
9 legislature was with a guarantee that the money in fact  
10 was going to go towards stocking lakes and rivers and  
11 so on, and even then there was tremendous objection and  
12 it was only I think \$10.

13 I mean, the willingness to pay is a  
14 difficult concept for me because while people are  
15 saying, yeah, they might be willing to, but it got so  
16 hot that having introduced it the further time it had  
17 to be withdrawn even at a minimal fee.

18 DR. MORRISON: Mm-hmm.

19 MR. MARTEL: You see -- I mean, in the  
20 real world I'm not sure there isn't a difference  
21 between, when the crunch comes and what you're saying  
22 you might be willing to do, that's difficult. But I  
23 think that's what happened, I think my facts are  
24 correct on that very minimal user fee which is only ten  
25 bucks.



1 DR. MORRISON: Mm-hmm.

2 MR. MARTEL: And then I think they had to  
3 take it off for a while for seniors because that was so  
4 contentious, that seniors didn't want to pay for it and  
5 kids.

6 DR. MORRISON: I think under 16, I  
7 believe.

8 MR. MARTEL: Yes. So, you know, I mean,  
9 how realistic when you look at a figure -- you know,  
10 you look at a survey like that and then look at the  
11 real experience, there appears to be some difference.

12 MS. SWENARCHUK: Q. Dr. Muller, do you  
13 have any comment?

14 DR. MULLER: a. May I jump in here with  
15 a couple of points. One is, the fact that you're  
16 willing to pay for something doesn't necessarily mean  
17 that you don't want to get it for free if you can. So  
18 I think that some of what you're referring to is quite  
19 natural.

20 The second question is: How could we use  
21 information from user fees to judge willingness to pay.  
22 Perhaps I could answer the Chair's question in the  
23 following sense.

24 Suppose you impose a significant increase  
25 in fees for Algonquin Park for recreation use. Now,

1     you might find that use went zip to zero, in which case  
2     you would conclude, well, people weren't willing to pay  
3     anything and that is strong evidence that there's no  
4     real willingness to pay.

5                     On the other hand, use might almost  
6     certainly decline a little bit, but it wouldn't decline  
7     entirely. Now, we would predict that use would fall  
8     off a little bit because one of the essential  
9     predictions of economics is the higher the price you  
10    charge the less people use something. So it would not  
11    be at all surprising if you impose a user fee and use  
12    falls off somewhat.

13                    But there are economic techniques for  
14    using this information about how quickly the demand  
15    drops off and calculating from that what it was worth  
16    to people.

17                    For example, suppose use drops off only  
18    by 90 per cent, you put on -- sorry, only by 10 per  
19    cent, so you still have 90 per cent of the same people  
20    using it and they are paying user fees of \$10 a day,  
21    well then, clearly you can multiply the \$10 a day times  
22    the number of people and that's a minimum estimate of  
23    the value of that resource to them.

24                    So you can use information from user  
25    fees, but you have to do it consistently with some

1 other ideas of what's going on.

2 DR. MORRISON: A. So it is possible to  
3 estimate the amount that might be appropriate for user  
4 fees and user fees are commonly used both in the United  
5 States and indeed in Ontario in the form of hunting  
6 licences, fishing licences as you noted.

7 I would like to turn now to the next  
8 overhead which--

9 Q. This is page 29.

10 A. Thank you. From which I would like  
11 to draw a number of conclusions. These data are from a  
12 report of which you have an excerpt, Exhibit 1700, and  
13 they are based on Table A-1 which extends from page  
14 1 -- over page 1 and 2.

15 And what I have done here is to show for  
16 the last 10 fiscal years what the revenue from forest  
17 management has been for the Ministry of Natural  
18 Resources and what the cost of forest management have  
19 been.

20 And for each of those -- for each of the  
21 last 10 fiscal years it has been a negative balance,  
22 which means that the provincial government has spent  
23 more on forest management than it has taken in and in  
24 the last fiscal year that amount was roughly  
25 \$150-million.

1                   What that difference represents is the  
2                   sum total of the subsidy to the forest industry in  
3                   Ontario. It represents money that could be spent in a  
4                   variety of other ways, including diversification  
5                   programs for northern communities, and it suggests that  
6                   with respect to production of forest products, that the  
7                   Ministry of Natural Resources is not doing it in the  
8                   most economically and efficient manner.

9                   MS. SWENARCHUK: Would you like to stop  
10                  there for lunch, or do you have any more comments on  
11                  this page?

12                  DR. MORRISON: Why don't we stop there  
13                  and I'll pick it up.

14                  MS. SEABORN: Ms. Swenarchuk, it might be  
15                  helpful after lunch - I don't like to interrupt - if  
16                  Dr. Morrison could just explain, take the first  
17                  example, for example, 1980, \$54-million, where that  
18                  figure comes from.

19                  He said that he made reference to page 1  
20                  and 2 in Exhibit 1700.

21                  MS. SWENARCHUK: The full report is an  
22                  exhibit.

23                  MS. SEABORN: No, he referred I think to  
24                  the excerpt filed as Exhibit 1700, and I just want to  
25                  understand, it may be helpful to understand what the



1 correlation is.

2 MS. SWENARCHUK: Yes, fine.

3 MS. SEABORN: Thank you.

4 MADAM CHAIR: We will break for lunch  
5 now.

6 Dr. Morrison, Dr. Muller, we will be back  
7 at 1:30.

8 ---Luncheon recess at 12:00 p.m.

9 ---On resuming at 1:40 p.m.

10 MADAM CHAIR: Please be seated.

11 Dr. Morrison?

12 DR. MORRISON: Before we broke for lunch,  
13 there was a question from counsel for the Ministry of  
14 the Environment regarding the source of the first item  
15 here in the table, and if you refer back to appendix --  
16 or Exhibit 1700, Table A-1 under the column - this is  
17 on page 1 of that appendix - under the column for  
18 1979-80, the total revenues, which is the fourth line  
19 from the bottom, is given there as 5400, and the  
20 expenditures, which is in this case the share  
21 attributed to the industry which is the fifth column of  
22 figures down, is given as 81.6-million for a difference  
23 of 27.6-million, and the confusion may have arisen from  
24 the fact that this should read fiscal year ending 1980  
25 and so on.

1                   Ms. Swenarchuk has just pointed out to me  
2           that if you in fact add up these numbers you end up  
3           with a figure of substantially over a billion dollars  
4           having been spent by the Ministry over the last decade.

5                   And I might point out that it's not  
6           entirely appropriate to do that because these are in  
7           current dollars. So you go down the list, if you in  
8           fact convert it to the 1989 dollars, it would be an  
9           even larger sum, and that is money that could have been  
10          spent in many other ways.

11                   Turn to the next overhead.

12                   MS. SWENARCHUK: Q. This is page 307 of  
13          Exhibit 1696.

14                   DR. MORRISON: A. This overhead is taken  
15          from a figure in an article by G. Howard who's  
16          identified at the beginning of the article as a  
17          regional forestry economist with the Ministry of  
18          Natural Resources based in Timmins.

19                   What he has done is identified the  
20          relationship between a budget -- a forest management  
21          budget and the supply, and what the curve suggests is  
22          that there are diminishing returns, that the more you  
23          invest, as you increase the amount you invest the  
24          increment in supply that you obtain in terms of a  
25          long-term sustained yield is less.

1                   And so that at some point the amount of  
2                   an additional, say, \$1-million in terms of a budget  
3                   expenditure would lead to a relatively small change in  
4                   the sustained yield supply.

5                   One of the implications of that, if you  
6                   turn to the next overhead--

7                   Q.   Page 31.

8                   A.   --is that it's not -- is that there  
9                   is then -- we can then derive a relationship between  
10                  the net social benefit to the province and the  
11                  sustained yield harvest, and we can identify the shape  
12                  of that relationship having the following form, that at  
13                  some point there is going to be a sustained yield which  
14                  leads to a maximum net social benefit.

15                  Now, it's not possible, given the present  
16                  information, to identify where we are on that curve,  
17                  but I at least raise it as a possibility that we may be  
18                  on - may be beyond the optimum and that we may be  
19                  incurring costs, we may be below our net social benefit  
20                  optimum in terms of the sustained yield harvest.

21                  I would like to conclude this section of  
22                  our evidence on provincial forestry matters by  
23                  referring to two of the exhibits, one of which I  
24                  believe has been distributed, Exhibit 1698, and one of  
25                  which we have here in hand, which is an excerpt of a

1 textbook prepared by J. C Nautiyal who is a Professor  
2 of Forestry at the University of Toronto, one of the  
3 forestry schools in Ontario.

4 MS. SWENARCHUK: (handed)

5 DR. MORRISON: And the point that I want  
6 to make from these two exhibits are -- the point that I  
7 want to make are that the tools, the ideas, the  
8 concepts are in place or are under active development  
9 to implement the kinds of proposals that we're putting  
10 forward, and my colleague will be expanding on that  
11 point when he comes to talk about the cost/benefit  
12 analysis that he prepared.

13 If you begin --

14 MS. SWENARCHUK: Excuse me. Could we  
15 make the next document an exhibit please, Madam Chair.

16 MADAM CHAIR: That will be Exhibit 1702.

17 Could you describe it, Ms. Swenarchuk?

18 MS. SWENARCHUK: This is an excerpt from  
19 the textbook entitled: Forest Economics, Principles  
20 and Applications by J. C. Nautiyal, N-a-u-t-i-y-a-l,  
21 of the University of Toronto, 14 pages.

22 MADAM CHAIR: Thank you.

23 ---EXHIBIT NO. 1702: 14-page excerpt from textbook  
24 entitled: Forest Economics,  
Principles and Applications by J.  
25 C. Nautiyal.



1 MS. SEABORN: Is this the full Table of  
2 Contents from the textbook? It appears to be a Table  
3 of Contents.

4 DR. MORRISON: Yes, it's a Table of  
5 Contents -- it's a title page, first page of the  
6 preface, Table of Contents and one page excerpted from  
7 the text itself, page 466.

8 MS. SEABORN: Thank you.

9 DR. MORRISON: With respect to Exhibit  
10 1698, I would draw the Board's attention to the first  
11 page of text at which a number of research projects are  
12 identified and I'll just read some of the titles of  
13 those.

14 MS. SWENARCHUK: Q. Dr. Morrison, before  
15 you do that, could you explain briefly to the Board  
16 what the Forestry Economics Policy Analysis Research  
17 Unit is, please?

18 DR. MORRISON: A. Certainly. It's a  
19 research group based at the University of British  
20 Columbia which has as its mandate the development and  
21 extension of research on forest economics and forest  
22 policy and has particularly focused on the tools to aid  
23 policy analysis and forest management in Canada.

24 So on the second page of this document,  
25 which is the page with the large title The Economics

1 and Management of Timber Supply and Silviculture, there  
2 are three research projects I would like to draw your  
3 attention to.

4 Sustainability, Forest Resource  
5 Management for British Columbia, which is designed to  
6 identify -- to bridge the gap between the strategic  
7 concepts of sustainable resource development and  
8 operational decision-making and implementation. The  
9 objective of the first year is to evaluate the wide  
10 array of decision tools developed for analysing the  
11 sustainability of forest management regimes.

12 The next one Sustainability Requirements  
13 in Forest Management Modeling, studied the impacts of  
14 alternatives, sustainable harvest flow constraints on  
15 the structure of the forest and forest industry in Nova  
16 Scotia.

17 And the third one, Decision Support  
18 Systems and Policy Analysis for Silvicultural  
19 Investments concerning the development, testing and  
20 validation of a silviculture planning model.

21 On page 3 of this document, the first  
22 one -- first item is entitled: Planting Decisions in  
23 the Face of Uncertainty in Timber Markets and  
24 Biological Growth. It's an attempt to incorporate  
25 uncertainty into the analysis of silviculture

1 decision-making.

2 On page 6 of the document, which has the  
3 general heading of Public Policy, we have research  
4 projects in multiple-use. Under Conflict Regulation we  
5 have research projects in Multiple-Use Resource  
6 Tradeoff Analysis, Assessing Forest Policy Options on  
7 Socially Sensitive Sites in British Columbia.

8 On the next page, page 7, the top two are  
9 Multi-Model Analysis of Forest Resource Use Conflicts,  
10 an analysis of resource conflicts between those  
11 interested in sustaining wood supply and those  
12 interested in protecting the natural environment.

13 The next one, Forest Land Policy, the  
14 Optimal Stock of Old Growth Timber, and central issues  
15 to be addressed in that research project are the net  
16 revenues from contingent old growth harvesting, the net  
17 social benefits from alternative levels of old growth  
18 timber, and the net revenue from second growth harvest.

19 Q. Dr. Morrison, how are you proposing  
20 that these studies are of assistance to forestry and to  
21 management in Ontario?

22 A. Well, I'm using them primarily to  
23 indicate that there are significant and relevant  
24 research programs that are underway that are  
25 specifically directed at providing the kind of

1 decision-making tools that I would suggest are  
2 necessary for efficiently and effectively managing the  
3 forests of Ontario.

4 The next exhibit, Exhibit 1702, which is  
5 intended -- is an excerpt from a textbook on forest  
6 economics and it's primarily aimed at undergraduate  
7 students in forestry, and if you look at the Table of  
8 Contents, in particular refer now to Chapter 17, which  
9 is on page little Roman numeral (xiii), see that there  
10 is a consideration of the non-timber products of  
11 forestry.

12 On page little Roman numeral (xv), which  
13 is Chapter 20, there is a chapter on project evaluation  
14 which includes discussion of benefit/cost analyses.

15 The point I would like to make by drawing  
16 the Board's attention to those items is that those  
17 concepts of including non-timber values in an economic  
18 analysis and of conducting a benefit/cost analysis in  
19 the course of project evaluation are standard procedure  
20 and are a part of an undergraduate forestry curriculum.

21 One final item I would like to draw the  
22 Board's attention to from this book is the last page  
23 and would like to, in particular, read the last  
24 sentence of that last page which is:

25 "In view of this study and with full



1 awareness that the results were based on  
2 rather subjective judgments, we recommend  
3 that the non-timber products be  
4 assigned...", here the emphasis,  
5 "...at least as much value as timber...",  
6 end of emphasis,

7 "...in a forest in situations where  
8 objective assessments are not available."

9 That I would take as a recommendation  
10 from one of Canada's leading forestry economists that  
11 non-timber values ought to play a very important role  
12 in any economic analysis. That is the end of my  
13 comments on provincial forestry issues.

14 What I would like to do now, my colleague  
15 and I would like to do now is turn to some comments on  
16 the Environmental Assessment Document itself.

17 I hesitate to put the next overhead up  
18 because I'm sure it is material that the Board is  
19 intimately familiar with.

20 Q. This is page 33?

21 A. Thank you. And this is just a  
22 summary of the elements of what an environmental  
23 assessment must consist of.

24 And what I propose to do is to highlight  
25 some of our comments on the Environmental Assessment

1 Document in the next few overheads and then my  
2 colleague will turn to some more general comments about  
3 a number of economic factors or a number of economic  
4 considerations that emerge from an analysis of the  
5 document.

6 To begin with I would like to consider  
7 the way that the description of the purpose of the  
8 undertaking is set out in the document.

9 Q. This is page 34.

10 A. And this is then a quotation:

11 "The purpose of the undertaking is to  
12 provide a continuous and predictable  
13 supply of wood for Ontario forest  
14 products industry."

15 The description of the purpose of the  
16 undertaking is vague in that continuity is not defined,  
17 in that -- because there are many ways in which you  
18 could get a continuous supply ranging from one cubic  
19 metre per year through to several million cubic metres  
20 of wood per year.

21 There is no clear indication of what  
22 predictable means in this context, whether it is  
23 predictable to the Industry over what time period,  
24 whether it is predictable cyclic, whether it is  
25 predictable constant.

1                   Because of this lack of quantification, I  
2                   would suggest that the description of the purpose of  
3                   the undertaking is not operational in that it provides  
4                   no guidance to a forest manager as to how the forest  
5                   ought to be managed.

6                   The next point, it is not linked to  
7                   consideration of its net social benefit in that there  
8                   are any number of costs, net social benefits that could  
9                   result from an undertaking carried out in this --  
10                  according to this description of the purpose, but  
11                  there's no -- appears to be no evaluation at what cost  
12                  this undertaking might be taken out, at what level of  
13                  investment, associated investment and with what  
14                  benefits that might accrue.

15                  The description of the purpose of the  
16                  undertaking given here appears to be in contrast to the  
17                  objective given in the Timber Management Planning  
18                  Manual, which is given at the bottom, which is:

19                         "To provide for an optimum continuous  
20                         contribution to the economy by  
21                         forest-based industries consistent with  
22                         sound environmental practices and to  
23                         provide for other uses of the forest."

24                         The points of contrast are the Timber  
25                         Management Planning Manual specifies that an optimum is

1 to be sought, it specifies that it's a contribution to  
2 the economy that is to be considered, not a supply of  
3 wood, it specifies forest-based industries which might  
4 be construed to include hunting, fishing and other  
5 industries which use the forest in contrast to the  
6 forest products industry, and the Timber Management  
7 Planning Manual also includes as constraints sound  
8 environmental practices and other uses of the forest,  
9 the way that the purpose of the undertaking does not.

10 The next item in the environmental  
11 assessment is --

12 MR. FREIDIN: Madam Chair, I'm just  
13 wondering for the purposes of clarification at this  
14 stage, while we go through all this evidence, whether  
15 this witness when he indicates what the EA says or does  
16 not say whether he's referring to the Environmental  
17 Assessment Document only, which is Exhibit 4, or  
18 whether he's referring to the environmental assessment  
19 as it has been declared by this Board to be all of the  
20 evidence and not limited to the Environmental  
21 Assessment Document?

22 MS. SWENARCHUK: The witnesses have  
23 reviewed evidence in the hearing where relevant, but  
24 with regard to, for example, the statement of purpose  
25 that has not been amended in any sense during this



1 hearing.

2 MADAM CHAIR: Dr. Morrison, the words  
3 that you have reprinted on page 34 were taken out of  
4 the Class Environmental Assessment that you read?

5 DR. MORRISON: That's right.

6 MR. FREIDIN: I'm just saying, we've had  
7 years of evidence of what those things mean and I just  
8 want to know when this witness says the environmental  
9 assessment is deficient in that it does not do  
10 something, is he saying that in full -- on recognition  
11 of all of the evidence which has been led, or is he  
12 basing his evidence solely on what he reads in the  
13 Environmental Assessment Document, because I...

14 MADAM CHAIR: He can only do the latter,  
15 Mr. Freidin. He couldn't possibly know all the  
16 information that's gone on in the --

17 MR. FREIDIN: All right. Well, perhaps  
18 the witness can confirm that that is correct and that  
19 would be of assistance to me. I would like that to be  
20 clear, so I can listen to the evidence with that in  
21 mind.

22 MS. SWENARCHUK: I have indicated that  
23 the witnesses have reviewed a certain amount of the  
24 evidence as we say, Madam Chair, not 270 volumes of  
25 transcript and not 1700 exhibits.

1                   However, with respect to this particular  
2 question which is the purpose of the undertaking, it  
3 would be my position that they're entirely within  
4 their -- it's entirely proper for them to analyse the  
5 purpose of the undertaking strictly from the words of  
6 the Class EA Document. Those are the words that to  
7 this date remain, the statement of the Ministry's  
8 purpose for the undertaking.

9                   With regard to such factors in the Class  
10 EA Document as the description of the undertaking which  
11 was expanded upon during the hearing in various MNR  
12 panels, Dr. Morrison has reviewed the relevant panels  
13 as well and his information, if you will, is based on  
14 that review and I think that's entirely proper.

15                   With regard to the purpose, however, I  
16 think the words of the CLASS EA Document essentially  
17 stand on their own regarding that purpose.

18                   You'll all recall that a motion was made  
19 regarding the Board's jurisdiction to amend the  
20 purpose, the Board has declined to in any way amend the  
21 purpose, and I believe those words remain as they were  
22 at the beginning of the hearing.

23                   MADAM CHAIR: We're getting embroiled in  
24 something we want to avoid with this witness and, that  
25 is, any discussion of the legal implications of the

1 application.

2 And what the Board will accept is, these  
3 are the words that Dr. Morrison has looked at and he  
4 believes that is the purpose of the undertaking and  
5 this is what his comments are based on.

6 DR. MORRISON: That's right.

7 MR. COSMAN: Madam Chair, I think that's  
8 quite right, and this may shorten the proceedings and  
9 this evidence.

10 You know, any collection of 19 words, no  
11 matter how expressed, can be subject to arguments that  
12 certain words or one or two words are subject to the --  
13 need application are vague if given by themselves.

14 The law - and this is a legal point and  
15 that's the whole point - the law is that those words  
16 must be considered in the context of the evidence that  
17 has come forward to explain that purpose before this  
18 Board.

19 Now, this witness as has been pointed out  
20 is looking at 19 words and we've spent two hours having  
21 criticism of those 19 words. For what purpose, when in  
22 law the purpose of the undertaking in conjunction with  
23 the evidence that's come forward to explain that  
24 purpose and to give it context, is in law what an  
25 environmental assessment is all about.

1                   So we can sit here and listen to a  
2 parsing of certain words, but to what effect?

3                   DR. MORRISON: Perhaps I should step in  
4 at this point. What I have reviewed is the Class  
5 Environmental Assessment Document in some detail and  
6 many of the comments that I and, as I understand it, my  
7 colleague will be making are based on that document.

8                   We have also attempted to review where  
9 possible the relevant panels and the relevant  
10 transcripts that bear on the particular points that  
11 we're making.

12                   So I guess I would suggest that it's  
13 neither of the two extremes that Mr. Freidin has laid  
14 out, we're not confining our comments just to the  
15 document itself, nor are we capable, I would suggest,  
16 based on our limited time and energy, of commenting on  
17 all of however many years' of evidence, but what we  
18 have tried to do is to indicate where we see the major  
19 criticisms and the major deficiencies of the document  
20 and direct the Board's attention to those.

21                   And if in your judgment you feel that  
22 those deficiencies persist, are important even though,  
23 and have not been corrected by additional evidence that  
24 has been led or presented to you, then you can always  
25 treat it in that way.



1 MS. SWENARCHUK: And, Madam Chair, I  
2 would simply add to that that the question of whether  
3 the deficiencies identified and commented upon by these  
4 witnesses have been corrected by or improved upon by  
5 evidence in the hearing is one of those issues which,  
6 fortunately or unfortunately, will be the subject of  
7 argument at the end of the case, and I suggest that  
8 that would be the proper time to conduct that argument.

9 MADAM CHAIR: Well, let's put it there  
10 this, Dr. Morrison. The Board is interested in what  
11 you have to say with respect to how you would see  
12 economic analysis or that sort of approach being taken  
13 to the Class EA; we don't want to spend any time  
14 talking about the meaning of specific words.

15 DR. MORRISON: All right.

16 Okay. The next item then of  
17 environmental assessment is a description of and a  
18 statement of the rationale for the undertaking, the  
19 alternative methods of carrying out the undertaking,  
20 and the alternatives to the undertaking.

21 MS. SWENARCHUK: Q. You're looking at  
22 page 35 of the Exhibit?

23 DR. MORRISON: A. Based on the evidence  
24 that we've reviewed we've come to the conclusion that  
25 the rationale for the undertaking is deficient in that

1 it is based on gross rather than net benefits, it's not  
2 considering the costs associated with various alleged  
3 benefits.

4 Second of all, it is inconsistent in its  
5 scope with respect to the Industry. That inconsistency  
6 arises in terms of the industries which are included in  
7 the rationale in that industries which bear a cost,  
8 such as hunting and fishing, are excluded or  
9 downplayed, industries which are only indirect  
10 consumers of the products of timber management, such as  
11 sawmilling and pulp and paper, are included.

12 The rationale for the undertaking is  
13 based on an unquantified demand forecast and have an  
14 apparent disregard for the cost of supplying the wood  
15 to the consumers.

16 Again, based on the evidence that we've  
17 reviewed, the Class Environmental Assessment Document  
18 does not provide a rationale for the alternatives to  
19 the undertaking or a rationale for the alternative  
20 methods of carrying out the undertaking.

21 In terms of the description of the  
22 alternatives to the undertaking and the alternative  
23 methods of carrying it out, we have the following  
24 options presented both in the assessment document and  
25 with specific reference to this section in Panel 17

1 evidence.

2 Q. We are now looking at page 36.

3 A. Thank you. The alternatives to the  
4 undertaking are obtaining a timber supply for Ontario  
5 from private land or importing it; second, harvest  
6 without renewal with application of guidelines in  
7 place; third, harvest without renewal without  
8 guidelines; and fourth, recycling.

9 These alternatives to the undertaking are  
10 clearly meant to be interpreted at the provincial  
11 level, that is, this becomes especially clear in the  
12 descriptions of the alternatives and the consequences  
13 of following through on the alternatives given in the  
14 Panel 17 evidence.

15 So that the alternatives to the  
16 undertaking are considered to be alternatives over this  
17 entire area. In contrast, the alternative methods  
18 which relate to pesticide use, methods of providing  
19 access, harvesting methods, renewal methods and  
20 maintenance techniques are applicable at the stand  
21 level. The undertaking itself, however, timber  
22 management, is conducted at the forest management unit  
23 level.

24 So what we're being apparently asked to  
25 do in the Class Environmental Assessment Document is to

1 compare apples and oranges, or a more appropriate  
2 analogy, we're being asked to compare apples and  
3 watermelons in that the alternatives to the undertaking  
4 are for the province or the area of the undertaking as  
5 a whole, and the options, the planning process, the  
6 undertaking itself is described at the forest  
7 management unit level.

8 Now, what I'd suggest is that what ought  
9 to have been done in terms of phrasing the alternatives  
10 to the undertaking is alternatives at the forest  
11 management unit level, and indeed perhaps below that  
12 still identifying, for example, whether it makes sense  
13 to harvest in one corner of one forest management unit  
14 level, whether that is an economically appropriate  
15 thing to do, evaluating perhaps in combination with  
16 that, what kinds of or what mix of harvesting  
17 techniques ought to be applied at another part of a  
18 forest management unit level.

19 And instead what appears to have happened  
20 is that we're being asked to compare alternatives based  
21 on an alternative applied uniformly over this entire  
22 area and we're being asked to compare alternative  
23 methods of carrying out the undertaking as if they were  
24 applied uniformly within a forest management unit.

25 The next item in the environmental



1 assessment is a description of the environment that  
2 will be affected, what I would like to highlight is the  
3 description of the environment that will be affected by  
4 the undertaking.

5 And again, based on the evidence we've  
6 reviewed, the description of the undertaking does not  
7 include the values of the users; in particular, it does  
8 not include such things as willingness to pay for  
9 certain benefits from the forest, thus, it is  
10 impossible to incorporate those values into the  
11 analysis, into the planning process.

12 The planning process does not set  
13 standards for description at the management unit level,  
14 what is an adequate description of the environment,  
15 what do you need to have before you can properly assess  
16 the possible consequences and, as a consequence, it is  
17 inadequate for properly assessing the effects on  
18 non-timber values.

19 Q. Now, Dr. Morrison, did your  
20 consideration of evidence led with regard to the  
21 Ministry's approach to the description of the  
22 environment, evidence led during the hearing, did your  
23 consideration of that evidence lead you to change your  
24 conclusions about, as you've set them out on this page,  
25 page 39 of the document?

1                   A. Again, based on the evidence I've  
2 reviewed, no.

3                   MADAM CHAIR: One minute, Dr. Morrison.

4                   DR. MORRISON: Mm-hmm.

5                   MADAM CHAIR: The second bullet point on  
6 this item and the previous subject that you discussed,  
7 are you saying that you think that the environmental  
8 assessment should have been undertaken individually for  
9 each management unit in the area of the undertaking?

10                  DR. MORRISON: You're asking me then if  
11 the class environmental assessment approach is the  
12 right one for this undertaking?

13                  MADAM CHAIR: No. It's what you said  
14 about how the EA had been looked at and your point  
15 about setting standards for describing the environment  
16 at each management unit level.

17                  You seemed to be saying to the Board that  
18 rather than looking generally over the area of the  
19 undertaking, the Ministry should have done a separate  
20 environmental assessment of each management unit  
21 because somehow they are different and somehow the  
22 alternatives are different.

23                  DR. MORRISON: Well, I guess I would  
24 argue that if you're undertaking a planning process on  
25 each of these forest management units individually that

1 your consideration of alternatives and your  
2 consideration of alternative methods also ought to take  
3 place at that level and ought to take account of  
4 site-specific variation, ought to take account of the  
5 fact that you're going to get really quite enormous  
6 variation from parts in the northwest corner of the  
7 province and parts in the more southerly parts of the  
8 province, that the kind of alternatives, including the  
9 null alternative of not managing for timber, would be  
10 different -- potentially different in district  
11 management units, and the kind of methods, the set of  
12 methods that you select from might well be different  
13 from one part of the province to another part of the  
14 province.

15 Similarly, I would suggest that the  
16 environment, the description of the environment ought  
17 to be different in one part of the province and another  
18 part of the province. For example, you're going to  
19 have, in more southerly parts of the province, a much  
20 greater concern for things like recreational potential,  
21 and in the northerly part of the province there may be  
22 a greater emphasis on other resource uses such as  
23 mining.

24 MADAM CHAIR: I don't want to get into  
25 any detailed discussion right now about all those

1 differences, but you're saying there is a deficiency in  
2 that those differences weren't handled separately and  
3 explicitly in the Environmental Assessment Document?

4 DR. MORRISON: That's right. I think  
5 that the alternatives need to be considered, need to be  
6 identified and considered at the management unit level,  
7 and those alternatives will vary from one part of the  
8 province to another.

9 MADAM CHAIR: But even if it were the  
10 case that those alternatives were identified for any  
11 approved planning process, that wouldn't satisfy you,  
12 you would want to see that in the environmental  
13 assessment?

14 DR. MORRISON: Not necessarily. It may  
15 be sufficient that the planning process is explicit  
16 enough in the way that alternatives can be set up and  
17 could be selected for consideration.

18 I mean -- so that for example, for the  
19 management unit here, if you specify as part of the  
20 planning process that you need to consider the null  
21 alternative of not managing for timber in that  
22 management unit, an alternative of managing to maximize  
23 recreational benefit, for example, or managing for  
24 maximization of wildlife benefit. Then those same  
25 general kinds of alternatives could be applied and



1       could be developed throughout the province.

2                   The exact form of those alternatives and  
3       what recreation you would be planning for, what other  
4       non-timber values you might be planning for, what kind  
5       of timber production you might be planning for would  
6       vary and, presumably, ought to be incorporated in the  
7       specific planning process for each as part of the  
8       timber management planning process.

9                   Does that answer your question?

10                  MADAM CHAIR: For now, thank you. In the  
11       next point, your first bullet point on the last slide.

12                  DR. MORRISON: This one here?

13                  MADAM CHAIR: Yes. You're saying that  
14       the environmental assessment as you read it doesn't  
15       include the values of the users?

16                  DR. MORRISON: Right.

17                  MADAM CHAIR: Now, how would you have  
18       included that if you were doing the environmental  
19       assessment, what would you have done?

20                  DR. MORRISON: Okay. What I would have  
21       done is, I would have required that the planning  
22       process take account of what information there was  
23       available at the present, at the time of preparing the  
24       plan on the values of the users, would have insisted  
25       that regional studies, if appropriate for various uses,

1 be carried out to assess, for example, willingness to  
2 pay for various kinds of benefits and, as appropriate,  
3 would have required that for an individual forest  
4 management unit that those values be identified and  
5 incorporated into the planning process.

6 I guess what I would suggest basically is  
7 that we can set standards and we can set requirements  
8 for how the planning process ought to be carried out.  
9 I'm not sure whether it's the place of -- in a class  
10 environmental assessment, which is much more concerned  
11 about the process from the planning aspects of the  
12 environmental assessment, whether we can in fact  
13 specify at the level of detail that we might have to  
14 the weight that those user values vary across the  
15 province and within timber management units.

16 MADAM CHAIR: Thank you.

17 DR. MORRISON: Any questions on that?

18 MADAM CHAIR: No.

19 MS. SWENARCHUK: Q. Dr. Peterson, I  
20 don't have a copy of this document -- Dr. Morris  
21 Peterson. Dr. Morrison, you have reviewed Forests for  
22 Tomorrow's terms and conditions; have you not?

23 DR. MORRISON: A. I have.

24 Q. And with regard to condition 92(i),  
25 which is at Section 5, it's at page 74 of the document,

1 the changed planning process that Forests for Tomorrow  
2 proposes to the Board includes in Section D, within the  
3 draft environmental impact statement as part of the  
4 plan:

5 "A description of the alternative  
6 possible uses of the resources of the  
7 unit reflecting a range of resource  
8 outputs at levels from high production to  
9 low production."

10 A. Right.

11 Q. Would that requirement be consistent  
12 with the deficiency that you've identified in the Class  
13 EA Document?

14 A. Yes, it would.

15 Q. And furthermore, in Section F:

16 "Descriptions of the predicted outputs of  
17 goods and services attributable to each  
18 alternative...", et cetera, and in

19 Section G:

20 "An analysis of the economic and  
21 employment effects of each each  
22 alternative."

23 A. Yes.

24 Okay. The final comment -- set of  
25 comments I would like to make before I turn matters

1 over to my colleague, who's waiting anxiously in the  
2 wings, is with respect to the evaluation of advantages  
3 and disadvantages which is perhaps at the heart of the  
4 environmental assessment process.

5 Q. You're now at page 40 of Exhibit 1696.

6 DR. MORRISON: A. And the following  
7 criticisms, again based on the evidence we've reviewed,  
8 seem to hold.

9 The evaluation provides no rationale for  
10 the evaluation criteria used. The evaluation criteria  
11 appear to have been chosen arbitrarily with no specific  
12 weight attached to any of them.

13 It does not include any quantitative  
14 evaluation of alternatives of the kind that would be  
15 possible with an economic analysis.

16 It disregards basic economic principles  
17 in evaluating the net benefits. It is inconsistent in  
18 its coverage of the industry. This is the same point  
19 in terms of with respect to which industries get  
20 included in the analysis and which do not and, to my  
21 surprise - and it bore a couple of rereadings to  
22 confirm this fact - in the Class EA Document no  
23 conclusion was reached with respect to the evaluation  
24 of advantages and disadvantages.

25 I might mention that that's not the case



1 for the Panel 17 evidence, but it certainly was of the  
2 document.

3 MR. FREIDIN: I'm sorry, what was the  
4 last comment?

5 DR. MORRISON: It was not the case for  
6 the Panel 17 witness, it did come to a conclusion in  
7 that case.

8 MR. FREIDIN: Thank you.

9 DR. MORRISON: Okay. And with that I'll  
10 turn it over to Professor Muller, unless there are some  
11 questions.

12 DR. MULLER: Madam Chair and Mr. Martel,  
13 most of my comments on the Environmental Assessment  
14 Document itself will be drawn from our witness  
15 statement that I sent down. I don't have overheads  
16 prepared for that.

17 I would like just to deal with an item a  
18 little bit out of sequence that arose from our  
19 discussion of jobs earlier today. The discussion -- I  
20 was left uncomfortable about the discussion about jobs  
21 that we had this morning for a number of reasons, but  
22 the main reason is that it sounded as if we were  
23 talking about the total elimination of forestry jobs  
24 from the northern economy and that was in some sense  
25 the tenor of the discussion was, it was either we have

1 the forestry industry or we don't.

2 Now, I want to make it very clear that  
3 neither Dr. Morrison nor myself really think that the  
4 alternatives that we face involve complete elimination  
5 of the forest industry or the maintenance of its  
6 current level of operation.

7 And just to try to clarify that a little  
8 bit, I made this sketch. I don't know if you want to  
9 dignify it with an exhibit number.

10 MS. SWENARCHUK: Certainly, Dr. Muller,  
11 it will become an exhibit.

12 We will make copies at the break, Madam  
13 Chair.

14 MADAM CHAIR: That will be Exhibit 1703.

15 ---EXHIBIT NO. 1703: Hard copy of overhead entitled:  
16 Volume of wood cut over time.

17 DR. MULLER: This is an overhead entitled  
18 volume of wood cut-over time, and it's a simple sketch  
19 to try to drive home what I consider to be the point of  
20 a lot of these discussions and, that is, that when  
21 we're talking about sustainable yield we must be  
22 talking about a yield which can be maintained in  
23 perpetuity given the biological and ecological  
24 capability of the land that we're dealing with.

25 And as my colleague Dr. Morrison pointed

1 out, there may be different sustainable yields  
2 depending on how much additional labour and capital you  
3 are going to apply. One question people face is  
4 determining what the best level of sustained yield is.

5 Now, on this diagram, I've drawn a green  
6 line for Forests for Tomorrow and a blue line for the  
7 Ministry of Natural Resources. And I've drawn the blue  
8 line slightly above the green line, indicating that my  
9 reading of what the Ministry of Natural Resources is  
10 telling us, that with intensive forest management you  
11 can get a slightly higher sustainable yield, a somewhat  
12 higher sustainable yield than you can with extensive  
13 management, and it's a matter of debate - which I don't  
14 want to get into - about how much higher that blue line  
15 is than the green line.

16 So one issue is how -- what's the target  
17 we are ultimately aiming at? Another issue is: How  
18 fast should we get to that target. And as I interpret  
19 what I've read and heard, I believe that you have  
20 received evidence from Professor Benson that his  
21 interpretation of the Ministry of Natural Resources  
22 harvesting plans is that they will lead to a decline in  
23 cut followed by a dip followed by a recovery eventually  
24 to the sustainable yield level.

25 And my interpretation of what foresters

1 are telling us about modified cut and natural  
2 regeneration options, is that it might be possible to  
3 reduce the harvest somewhat now, compared to the MNR's  
4 level, and avoid that dip and approach the sustainable  
5 level following a different path.

6 So another question we have is: How fast  
7 should we achieve the sustainable level. And so what  
8 we're really talking about is diverging patterns of  
9 harvest over time.

10 I don't think anybody is saying that we  
11 should get rid of harvest altogether, and so I'm  
12 uncomfortable with discussions about the employment  
13 which seemed to indicate that, you know, we were going  
14 to get rid of the Industry completely or not. I hope  
15 that's clear.

16 MR. MARTEL: But did your discussion  
17 involve any indication that somewhere in this process  
18 one might be prepared to sacrifice some jobs.

19 DR. MULLER: Yes, and -- what shall I  
20 say, it certainly is consistent with our witness  
21 statement that an alternative might be chosen which has  
22 fewer jobs right now, that certainly, it seems to me,  
23 consistent with the witness statement.

24 But my own bias as an economist is  
25 primarily directed at the process by which the



1 decisions are being reached. I'll leave it to the  
2 lawyers to tell you exactly what the argument is on the  
3 basis -- exactly what FFT's position is.

4 MR. FREIDIN: I was just going to make  
5 the observation that it warms my heart to see FFT and  
6 the Ministry of Natural Resources so close together.

7 DR. MORRISON: Inextricably entwined.

8 MS. SWENARCHUK: We're not settling on a  
9 scale for that line, Mr. Freidin.

10 Madam Chair, since the witnesses are  
11 turning to another subject area, would you like to take  
12 a break now?

13 MADAM CHAIR: We can do that, Ms.  
14 Swenarchuk. Back in 20 minutes.

15 ---Recess at 2:40 p.m.

16 ---On resuming at 3:00 p.m.

17 MADAM CHAIR: Please be seated.

18 Dr. Muller?

19 DR. MULLER: Shall we start. Madam  
20 Chair, I would like to make a few more comments about  
21 the Environmental Assessment Act -- not really the  
22 Environmental Assessment Act, about the Environmental  
23 Assessment Document from my point of view as an  
24 economist.

25 And since I don't have overheads prepared

1 and since I will be following more or less along the  
2 lines of my witness statement, I'm sitting down rather  
3 than standing up at the projector.

4 I would like to clarify that I'm basing  
5 my comments on the Class Environmental Assessment  
6 Document which I have read in its entirety and prepared  
7 comments on, supplemented by a small amount of reading  
8 in the additional record and, in particular, I have  
9 looked at Ministry of Natural Resources witness  
10 statements 5, 6, 10 and 11 quickly in search of  
11 economic analysis. I have heard reference made to  
12 Panel 17 and I have not consulted Panel 17.

13 I'll begin by pointing out that the  
14 description -- I am informed by Ms. Swenarchuk that  
15 it's important to make clear that I am not commenting  
16 on this, the Environmental Assessment Act, as a legal  
17 document, I'm not attempting in any way to make a legal  
18 argument; what I'm doing is reading as an economist the  
19 Environmental Assessment Act -- no, also the  
20 Environmental Assessment Act.

21 When I read Section 5 of the  
22 Environmental Assessment Act it looks to me as if it  
23 was put together by an economist who wants to maximize  
24 net present value; that is to say, the steps described in  
25 the Act are so similar to the steps fundamentally that

1 would be followed to doing a cost/benefit analysis to  
2 attempt to deal in a sensible way with any project,  
3 that I as an economist feel it's appropriate to judge  
4 the Environmental Assessment Document prepared under  
5 this Act according to economic criteria, and that is  
6 what I'm doing, I'm commenting as an economist.

7 Section 4.2, starting on page 111 of our  
8 witness statement, makes reference to a number of  
9 conceptual weaknesses that I find or have found in my  
10 first reading of the Environmental Assessment Document  
11 and I hope that the question before the Board is  
12 whether these weaknesses have been remedied in  
13 subsequent analysis.

14 The first point I would like to make is  
15 on page 111, it's Item 4.2.1, from the point of view of  
16 an economist, this Class Environmental Assessment  
17 Document seems to interpret the role of the class  
18 environmental assessment in a strange way, in a way  
19 which I believe is inconsistent with the Environmental  
20 Assessment Act.

21 MR. FREIDIN: Well, there's --

22 DR. MULLER: Okay.

23 MR. FREIDIN: Madam Chair, I know that  
24 there's the caveat that was given. Again, I assume  
25 when this witness says that something is inconsistent

1 with the spirit of the Environmental Assessment Act, we  
2 can interpret that as saying it's inconsistent with how  
3 an economist would approach dealing with alternatives.

4 MS. SWENARCHUK: Well, Mr. Freidin, you  
5 already have --

6 MR. FREIDIN: He keeps saying it's  
7 inconsistent with the intent of the Act and he's not  
8 here to tell us what the intent of the Act is.

9 MS. SWENARCHUK: You have the statement  
10 in the errata and explanatory notes that the judgments  
11 expressed by these witnesses with regard to the meaning  
12 of the Environmental Assessment Act are their judgments  
13 based on how an economist would interpret those words  
14 and are not legal interpretations.

15 Furthermore, we had Dr. Muller just  
16 extensively repeat that caveat. I think the record  
17 should be clear as to the type of expertise being  
18 utilized in the examination of those words, and I would  
19 appreciate the opportunity for the witness to proceed  
20 on that basis.

21 MR. COSMAN: Yes, madam Chair, certainly  
22 subject to whatever rulings you would make, and all I  
23 would add, and I've read the errata which says that the  
24 witnesses aren't legally qualified and, therefore,  
25 cannot give an opinion what the intent or spirit of the



1 Act is or what the words mean, that's what it means  
2 when you say that they're not legally qualified to  
3 interpret the legislation.

4 I would submit to you that, and I'm not  
5 going to object to this witness explaining from an  
6 economics perspective what he understands; a  
7 sociologist might have a particular perspective of the  
8 Act and its intent, a philosopher might, a public  
9 policy expert might.

10 If we're going to hear what pure economic  
11 opinion is, that's fine for what it's worth, but it  
12 isn't in any way helpful to you in interpreting what  
13 the legislation means, and I think that's the concern  
14 that we have at the end of the day

15 MADAM CHAIR: Thank you, Mr. Cosman.

16 DR. MULLER: I'm happy to confirm that if  
17 by any chance in the next half hour I slip and I talk  
18 about the purpose of the Act, I certainly mean the  
19 purpose of the Act as seen by an economist who thinks  
20 the Act is concerned with maximizing net present value  
21 with national income, and I certainly don't want to  
22 trespass on other peoples' territory.

23 The problem that I see is that if we try  
24 to interpret the class assessment as an attempt to  
25 wisely allocate the forest resources, then it seems

1 fairly clear that we should attempt to allocate them  
2 wisely at the forest management level; that is, we  
3 should consider each chunk of the forest and we should  
4 be aware of the fact that the appropriate alternatives,  
5 the appropriate alternative uses of the land may easily  
6 vary depending on whether they're in the north or the  
7 south or whether they're in areas which are  
8 particularly valuable for recreational use, for  
9 wilderness use or watershed preservation or any other  
10 special use.

11 And my purpose in the comments on page  
12 111 through 112 is simply to suggest that a sensible  
13 way of dealing with this would be for the province to  
14 adopt or the Environmental Assessment Board to approve  
15 a process of planning which made sure that each  
16 alternative use of the land was properly considered,  
17 fully considered at the local or forest management unit  
18 level.

19 In other words, the difficulty, the thing  
20 that bothers me as an economist about the way in which  
21 the Class Assessment Document is written is that it's  
22 treating the whole thing as one gigantic project as if  
23 you could select one specific method of silviculture  
24 for the whole area; whereas I would have thought, on  
25 the basis of what I have read, that it was better to

1 deal -- from an economic viewpoint, it would be better  
2 to deal with this in terms of making sure that the  
3 people doing planning at the individual forest  
4 management level are following a process which  
5 considers all possible alternative uses of that land.

6 Madam Chair, I don't know if it helps you  
7 to refer to our answer to the Ministry of Environment's  
8 Interrogatory No. 10. In it I simply -- I was the one  
9 who drafted this response, I simply referred to a  
10 document entitled: The Citizens' Guide to Environmental  
11 Assessment published by the Ontario Ministry of the  
12 Environment, and I quote some lines from it which I  
13 felt were consistent with the way in which I view the  
14 class environmental assessment.

15 MR. FREIDIN: Madam Chair --

16 DR. MULLER: Is that bad?

17 MR. FREIDIN: This is the second time  
18 there has been reference to an interrogatory, the other  
19 one was CASIT No. 11. Neither of those documents have  
20 been filed as evidence.

21 If it's the intention of Forests for  
22 Tomorrow to rely on them in any way as part of their  
23 case, I would suggest that they be filed as evidence.

24 MS. SEABORN: I'll be filing the question  
25 from the Ministry of the Environment, if that's of

1 assistance.

2 MS. SWENARCHUK: Yes, I had simply asked  
3 that everyone have the interrogatories present, but we  
4 can certainly, perhaps at the - if you agree - at the  
5 end of the direct testimony prepare an exhibit number  
6 that would include responses to the --

7 MR. FREIDIN: I'm sorry, I can't hear  
8 you, Michelle.

9 MS. SWENARCHUK: What I propose is that  
10 at the end of the direct evidence we assign an exhibit  
11 number to the interrogatories that have been referred  
12 to, if you agree that.

13 MADAM CHAIR: Any objections?

14 MR. FREIDIN: No.

15 MADAM CHAIR: That is what we will do.  
16 Okay, Dr. Muller.

17 DR. MULLER: Now, I don't want to unduly  
18 delay. I would like to point out on the top of page  
19 113 of our statement we make a very brief comment that  
20 there's a problem with the process described in the  
21 Class Environmental Assessment Document.

22 As I read that document I felt that it  
23 failed to ensure that all important alternatives,  
24 including the null alternative of not managing a forest  
25 management unit for timber supply, will be considered



1 at the level of the forest management unit, and I think  
2 this is consistent with the earlier point I was trying  
3 to make.

4 I think it's important if this exercise  
5 is to be interpreted as an economic exercise in using  
6 resources available to us wisely, I think it's  
7 important that that null alternative be dealt with at  
8 the level of each forest management unit. Indeed there  
9 may be sections within a forest management unit in  
10 which managing for something other than timber supply  
11 is a good idea.

12 We also made the point in the document  
13 that we don't think that the class environmental  
14 assessment gives sufficient weight to the effect of  
15 timber management and non-timber activities. I don't  
16 have anything to add to the discussion of the document  
17 here. Unless you wish me to expand, I will continue.

18 On the item on page 114 of our witness  
19 statement, Item 4.2.4, is an idea which is I believe  
20 quite important. It's grounded in economic analysis,  
21 and it's an idea which I don't think has been given a  
22 great deal of weight in the Environmental Assessment  
23 Document and the other material that I've read.

24 And the basic problem is that many of the  
25 services provided by the forest are not marketed

1 commodities in the same way that lumber is a marketed  
2 commodity and, in particular, the services that people  
3 get from the existence of old growth forest, the  
4 possibility of wilderness recreation, and I think also  
5 the services of maintaining biological diversity and  
6 probably watershed preservation, all of these services  
7 apply simultaneously to a large number of people, and  
8 if you provide them to anybody you tend to be able to  
9 provide them to the whole population at no extra cost,  
10 and that makes them what we call public goods in  
11 economic analysis.

12 And the key thing -- there are two key  
13 things about a public good; one is that once you  
14 produce it's readily available to everybody.  
15 Obviously, once you've got genetic diversity preserved  
16 in some particular area, it's available to everybody.  
17 And the other thing is that once you've provided it,  
18 it's difficult to exclude people from using it.

19 Now, that seems like a funny way of  
20 putting things, but when you can't exclude people from  
21 using something, you can't charge them for the use of  
22 it and that means it's hard to sell that product in a  
23 market.

24 Now, the point that we were trying to  
25 establish on pages 114 and 115 is that there's quite a

1 few uses of the forest that fall into this definition  
2 of public good and, for a number of reasons, it's  
3 unlikely that the users of public goods will find it  
4 easy to represent their interests in forums such as  
5 this. It's difficult to organize. People who are  
6 using these services are widely spread out and, what's  
7 more, there's a natural human tendency for people to  
8 think that somebody else will look after their  
9 interests in this kind of situation.

10 I think you've heard evidence from  
11 Forests for Tomorrow Panel No. 2, I believe that was a  
12 panel involving statements from a large number of lay  
13 witnesses, who documented the difficulties that they've  
14 had in trying to come to grips with their experiences  
15 with the Ministry of Natural Resources, and I believe  
16 that there was some comments in those statements about  
17 how those people felt about the public participation  
18 process in forest management.

19 There was also the statement of the  
20 Beardmore-Lake Nipigon Watchdog Society. I refer to  
21 these simply as examples of frustration which I would  
22 interpret as being associated with the fact that we  
23 have here public goods and it's difficult to organize  
24 the users of public goods in an effective way to  
25 participate in public bargaining.

1                   It's also true that if you don't have the  
2                   right to use something, if you don't have the legal  
3                   right to use something you often lack bargaining power.  
4                   And we refer on page 115 of our text to the problem of  
5                   lack of legal rights.

6                   In the second paragraph on page 115 we  
7                   start off by saying:

8                   "Thus, for example, the text of the  
9                   environmental assessment document which  
10                  commits the government to consult with  
11                  native people ignores the basic issue  
12                  that consultation means very little when  
13                  persons being consulted have no  
14                  bargaining power."

15                  Now, you might wonder why I, as an  
16                  economist, comment on this. It's because the notion of  
17                  property rights is central to economic analysis and  
18                  there is a body of economic analysis called economics  
19                  and law which investigates the consequences of poor  
20                  definitions -- the consequences of not having property  
21                  rights well defined.

22                  And the point I'm trying to make here is  
23                  that native peoples, recreational users of the land,  
24                  other users of the land, since they don't have a legal  
25                  right to use the land find it hard to get compensated



1 if they lose that right, and they find it hard to  
2 bargain effectively to maintain that right.

3 And I think that these are important  
4 difficulties which can't be easily resolved by public  
5 processes, and was the point of 4.2.4.

6 MADAM CHAIR: Excuse me, Dr. Muller.

7 DR. MULLER: Yes.

8 MADAM CHAIR: In this way you're  
9 discussing public goods and you're giving the Board the  
10 impression that public goods are a large part of the  
11 environmental services that you would see the forest  
12 providing instead of timber.

13 DR. MULLER: Yes.

14 MADAM CHAIR: The difficulty for the  
15 Board is coming to terms with what kind of evidence  
16 there is that, in fact, the forest is being used for  
17 environmental services, that it is -- we've always been  
18 curious about why, when someone is in favour of  
19 providing environmental services as opposed to  
20 forestry, they want to quantify it somehow.

21 It's hard for the Board to imagine that  
22 when you get into quantifying the use of the forest  
23 other than for timber that you're ever going to have a  
24 very strong comparison.

25 I think it's one thing to say, yes, the

1 forest is a public good and everyone has a right to use  
2 that and there should be consideration of that and  
3 timber shouldn't occupy the entire forest, but it's  
4 difficult for the Board to understand, when you're  
5 looking at this contingency valuation or you're looking  
6 at user -- that you're trying to put some number on  
7 what that participation might be.

8 DR. MULLER: I believe you've accurately  
9 described some of the difficulties. The main point I  
10 would make is that because we know some of these uses  
11 are potentially important, and because we know that the  
12 "market system" doesn't work very well in providing  
13 these goods and services through markets, we have to be  
14 careful to make some kind of provision for considering  
15 them.

16 And, in particular, it's occasionally  
17 said that we should manage the forest entirely on a for  
18 profit basis, I believe professor Benson made that  
19 statement.

20 I think that statement has to be  
21 carefully interpreted. That kind of approach has to be  
22 carefully interpreted because we know that some  
23 important services of the forest are public goods and,  
24 therefore, are not easily marked.

25 MADAM CHAIR: Nor easily measured.

1 DR. MULLER: And the measurement problem  
2 is true. Now, my position on that, for what it's  
3 worth, is that it's important to try to quantify these  
4 values, at least to get an order of magnitude, by which  
5 I mean, are we talking about \$10-million or  
6 \$100-million or a billion dollars a year.

7 I think it's important to continue  
8 research on that kind of question.

9 MADAM CHAIR: Do you have any evidence  
10 for the Board on any of that research that has been  
11 done?

12 DR. MULLER: I referred very briefly  
13 yesterday to the Value of Wildlife to Canadians Survey.  
14 I believe it has been filed as an exhibit.

15 MADAM CHAIR: We had a discussion about  
16 that some panels ago with Dr. Payne and our concern  
17 there - and I'll simply tell you what it was - is that  
18 again, it was that contingency kind of valuation, if --  
19 would you use the forest to go bird watching, or would  
20 you do something. They were measuring the intention of  
21 the public to use the forest, rather than specifically  
22 how much they used it.

23 DR. MULLER: Madam Chair, I had the  
24 opportunity to review Professor Payne's testimony, I  
25 read quickly through the volumes, and I notice that he

1 did not lay a great deal of emphasis on one particular  
2 aspect of this survey which is called in the survey  
3 document measurement of direct benefits to  
4 participants.

5 MADAM CHAIR: Was this the first or  
6 second one?

7 DR. MULLER: Now, I am looking right now  
8 at a xerox that I made from -- and it's headed Figure  
9 2, expenditures and direct benefits reported by  
10 Canadians participating in wildlife related  
11 recreational activities in 1981. So this is a 1981  
12 survey.

13 But what I'm looking at comes from page  
14 4, I think of the document, and it's a chart, it's from  
15 the executive overview of the recreational economic  
16 significance of wildlife, and what I'm looking at is a  
17 bar chart which compares expenditures by participants  
18 on recreational hunting and primary non-consumptive  
19 trips to direct benefits.

20 And just as an example, the bar chart  
21 indicates that the direct benefit to hunting,  
22 recreational hunting in 1981 was estimated at  
23 \$.4-billion, so that is \$400-million a year evaluated  
24 in 1981 dollars.

25 MADAM CHAIR: And that's Canada.



1 DR. MULLER: And that is for Canada.

2 Now, what I mean by order of magnitude is that that  
3 gives us some idea that it's \$400-million a year and  
4 it's not \$4-million which is really tiny, and it's not  
5 four or 5-billion, which is quite a bit bigger.

6 And I'm certainly comfortable with the  
7 position that research designed to give us some  
8 estimate for those orders of magnitude is valuable in  
9 making decisions.

10 MS. SWENARCHUK: Q. Can I ask you, Dr.  
11 Muller, following from Madam Chair's question, could  
12 you perhaps explain again why you consider it  
13 important, if it's difficult to do and requires these  
14 contingent valuation techniques, et cetera, could you  
15 explain again why you think in any event it is  
16 important to do so?

17 DR. MULLER: A. I think it's important  
18 to do so because it provides us with a point of  
19 comparison with the more easily measured benefits.

20 Q. And Madam Chair asked you if there  
21 were any studies that you could refer to the Board, and  
22 one or both of you referred earlier this morning to  
23 analyses being done in the United States, and I believe  
24 you referred to that as well yesterday, Dr. Muller.

25 Are there particular studies that perhaps

1 we could review with the Board tomorrow or that you  
2 could provide to them that could be of assistance to  
3 them?

4 A. I'm going to defer to Dr. Morrison on  
5 that question.

6 DR. MORRISON: A. There's -- actually in  
7 addition to the study done by the Canadian Wildlife  
8 Service, there was a study that was done by the  
9 Ministry of Natural Resources and the Department of  
10 Fisheries and Oceans which attempted to estimate the  
11 consumer surplus of active resident anglers in Ontario  
12 by means of survey techniques. So, again, they're  
13 trying to estimate -- this is a study which is designed  
14 to estimate the willingness to pay of fishermen.

15 MADAM CHAIR: Excuse me, what year was  
16 that study?

17 DR. MORRISON: 1988.

18 MADAM CHAIR: Is that in evidence, Mr.  
19 Freidin?

20 MR. FREIDIN: I'm not sure if that's part  
21 of FFT's --

22 DR. MORRISON: No.

23 MR. FREIDIN: What's the document? May I  
24 see it?

25 DR. MORRISON: I don't have the original

1 with me. I can give you the reference though.

2 MR. FREIDIN: Mr. Hanna says no, and he's  
3 probably the best person to remember that sort of  
4 document, so I'll say no, relying fully on Mr. Hanna.

5 MR. HANNA: Brave soul.

6 MR. MARTEL: As he pulls the rug out from  
7 under you.

8 DR. MORRISON: The reference is the  
9 Ontario Ministry of Natural Resources and Department of  
10 Fisheries and Oceans, 1988.

11 The table is Sport Fishing in Ontario,  
12 1985, so presumably that is when the survey was  
13 conducted, and it's published by the Communications  
14 Directorate, Department of Fisheries and Oceans in  
15 Ottawa.

16 MADAM CHAIR: Thank you. Will you be  
17 introducing this, Mr. Hanna?

18 MR. HANNA: Yes, Madam Chair. In fact  
19 one of the witnesses we called has used the database  
20 extensively in doing these types of analysis.

21 MADAM CHAIR: Okay, then we won't do  
22 anything about that, about producing it today.

23 DR. MORRISON: I might just point out  
24 that that study indicated a willingness to pay of  
25 about -- of \$490-million above expenditures. So that

1 anglers in Ontario were willing to pay that much, that  
2 was a benefit of fishing opportunities in Ontario.

3 MR. MARTEL: That was all costs?

4 DR. MORRISON: Sorry.

5 MR. MARTEL: That's all costs you're  
6 talking about?

7 DR. MORRISON: No, that's a benefit above  
8 expenditures.

9 MS. SWENARCHUK: Q. What does that mean,  
10 Dr. Morrison?

11 DR. MORRISON: A. That would be, once  
12 you had -- that's basically the amount that they're  
13 willing to pay, the total amount they're willing to  
14 pay, less the amount that they actually pay. So it's,  
15 if you like, a surplus.

16 Q. An additional amount?

17 A. An additional amount, an amount that  
18 they would be willing to pay beyond the actual.

19 MR. MARTEL: And that's how much?

20 DR. MORRISON: \$490-million.

21 MR. MARTEL: In Ontario?

22 DR. MORRISON: Ontario.

23 MS. SWENARCHUK: Q. Do you recall by any  
24 chance whether or not what they would actually may.

25 MR. MARTEL: They objected to paying \$10



1 for a hunting licence.

2 DR. MORRISON: There's a lot of anglers  
3 in Ontario.

4 MR. MARTEL: Yes, I know, but they  
5 objected to paying ten bucks for a fishing licence,  
6 very strenuously, so strenuously the government  
7 withdraw the first licence.

8 DR. MORRISON: I understand the licensing  
9 program is now in place in Ontario.

10 MR. MARTEL: Oh yes, it's back in place,  
11 but it got approval because there was some guarantees  
12 that all of the money that would be taken in would go  
13 towards restocking, but that's only ten bucks a head.  
14 If you're over 16 and under 65.

15 MR. HANNA: Mr. Martel, I really have to  
16 come to my feet on this just so that there isn't any  
17 misimpression left with the Board. My client strongly  
18 supported a fishing licence being implemented in the  
19 province and was fully prepared to pay the licence fee  
20 and there is one caveat and that was the willingness to  
21 pay, and I think my cross-examination of this will  
22 become part of the evidence, that as long as that money  
23 goes for what people are willing to pay for, and I  
24 think you've already identified that in your  
25 statements, that it has to be earmarked for that type

1 of expenditure.

2 But I just wanted to make sure that you  
3 understand that certainly my client was fully in  
4 support of that.

5 MR. MARTEL: I wasn't talking about your  
6 client there, Mr. Hanna, not at all.

7 MR. HANNA: I just wanted to make sure  
8 you understood that.

9 MR. MARTEL: I was just talking about my  
10 constituents, at one time.

11 DR. MORRISON: In addition to those two  
12 studies, the study conducted by the Canadian Wildlife  
13 Service and the Department of Fisheries -- and the  
14 other one conducted by the Department of Fisheries and  
15 Oceans, I'm not aware of any other studies which would  
16 specifically address the willingness to pay for  
17 non-timber values in Ontario.

18 There are, however -- there's an  
19 extensive set of studies that have been conducted in  
20 the United States which have tried to estimate the net  
21 economic value of a variety of non-timber uses and  
22 these are referred to on page 188 of our witness  
23 statement in the first full paragraph.

24 They include Benefits of Recreational  
25 Steelhead Fishing, Deer Hunting, Hunting Unique

1 Species, in this case referring to big horned sheep,  
2 mountain goat and antelope, elk hunting, water fowl  
3 hunting and upland game hunting.

4 And also in Appendix A of our witness  
5 statement there's a brief discussion of a review of  
6 some of the other methods that have been applied to  
7 attempting to valuate or place a value on non-market  
8 goods and services and a brief discussion of the  
9 relative merits of them.

10 In addition, there's a discussion of  
11 attempts to estimate such relatively intangible values  
12 as existence values, options values, which would be a  
13 value that people place on options for the future, and  
14 bequest values which would be the value that users  
15 might attach to particular features of the environment  
16 that they wish to pass on to their children.

17 MADAM CHAIR: Thank you.

18 DR. MULLER: I was discussing our general  
19 overall worries about the environmental assessment  
20 document, and the final one that I would like to  
21 underline with you is on page 117 of our witness  
22 statement. The point we say is that the economic  
23 analysis in the class environmental assessment is  
24 minimal and faulty.

25 I would like for the record to apologize

1 to anybody I've offended by the tone of voice that I  
2 have adopted in some pages of this document. There  
3 is -- on occasion, in the heat of the moment, you type  
4 something that hasn't been toned down quite as much as  
5 you would like, and I want it clearly understood that I  
6 believe everybody who participates in the drafting of  
7 these kinds of documents is doing his or her very best  
8 to do the job according to their understanding of what  
9 has to be done.

10 So there are one or two points in this  
11 witness statement where I hope nobody has taken offence  
12 and if somebody has taken offence, I hope that they  
13 will accept my apology.

14 Nevertheless, I do think that there are  
15 real weaknesses in the economic analysis exhibited in  
16 the class assessment document. One way of saying that  
17 is to say that there is, as far as I can tell,  
18 virtually no economic analysis of the costs and  
19 benefits of any aspect of timber management, even from  
20 a private cost perspective.

21 It may be that the Ministry of Natural  
22 Resources didn't think that such a financial analysis  
23 was appropriate to an environmental assessment and, if  
24 so, my opinion as an economist is that they're wrong,  
25 that it's important to make sure that you're doing



1 basic private cost analysis of your operations to make  
2 sure that your revenues are basically covering your  
3 expenditures, as part of an overall environmentally  
4 responsible way of operating.

5 And the reason I say that is there may  
6 easily be cases in which you're doing things which are  
7 damaging the environment that you wouldn't do if you  
8 had the cost accounting which showed you that they  
9 weren't justified even on a private cost basis.

10 So I would say that I did look in witness  
11 statement 10 on harvest and witness statement 11 on  
12 renewal from the Ministry of Natural Resources, looking  
13 for information on economic considerations, and I did  
14 find in each document three paragraphs on economic  
15 considerations, and in no case were numbers employed,  
16 and in no case was a there discussion of the  
17 possibility that the net present value of certain  
18 activities might be negative.

19 And I certainly have not read the entire  
20 documentation for the hearing, so I don't know whether  
21 you've had discussions with Ministry personal on this  
22 matter which would change my opinion.

23 The second fundamental problem with the  
24 economic analysis that I have seen connected with this  
25 environmental assessment document is a tendency to what

1 I have said in the witness statement, grossly overvalue  
2 the value of wood.

3 And I would draw your attention to pages  
4 72 through 77 of our witness statement. And here's the  
5 point where if Mr. Hynard were here I would like to  
6 tell him that I didn't mean any of this personally.

7 I quote on page 72 and 73 some testimony  
8 which this Board has received from Mr. Hynard  
9 concerning the economic analysis of silvicultural  
10 decisions, and what I would like to stress is that most  
11 of his discussion is based on what I consider, as an  
12 economist, to be far too high a value of the wood which  
13 is produced.

14 Allow me to just draw your attention to  
15 the quotation on page 72 of our document, where Mr.  
16 Hynard said that:

17 "Stumpage values alone can justify few  
18 silvicultural ventures in Ontario which  
19 explains why private landowners here do  
20 not invest in timber production in a  
21 meaningful way. The Ontario government  
22 makes investments in silviculture because  
23 the economic value to society of wood is  
24 far greater than the Crown dues alone."

25 And on 73 Mr. Hynard said that he wasn't

1 really sure what the value of a cord of wood was, but  
2 when you were buying hardwood furniture he thought that  
3 you were paying \$15,000 a cord for your wood and that  
4 that \$15,000 went into the economy, and if you buy  
5 hardwood pallets, that's about \$500 a cord for your  
6 wood.

7 And he goes on to say further on that the  
8 benefits that people get from -- I'm sorry:

9 "The Government of Ontario on the other  
10 hand invests in forestry because the  
11 benefits to Ontario's society from a cord  
12 of wood are enormous. Those benefits  
13 include people working in the mills, they  
14 are paying their taxes, they are not  
15 collecting unemployment insurance, they  
16 are buying their skidders that are made  
17 in Woodstock, they are buying their  
18 Chevrolets that are made in Oshawa.  
19 Those are all values that Ontario's  
20 society, people of Ontario receive as a  
21 result of the result of Government of  
22 Ontario making this investment."

23 Now, Madam Chair and Mr. Martel, I  
24 drafted pages 74 and 75, 76 and 77 of this document.  
25 As I say in the document, these are such common

1 perceptions of the value of wood that it's worthwhile  
2 to be careful in explaining why economists, in my  
3 opinion, rightly reject them as estimates of the value  
4 of wood.

5 I certainly won't read you these pages.  
6 Let me just point out that on page 74 when you say that  
7 you pay \$15,000 for a cord of wood you are talking  
8 about the equivalent of \$1,200 for corn in my example  
9 of yesterday or the thousand dollars worth of potatoes,  
10 and what I was trying to point out yesterday in my  
11 simple examples was that that income is also used to  
12 pay the other factors of production like labour and  
13 fertilizer and capital which are used in production.

14 So that when you say that you're paying  
15 \$15,000 a cord for wood, it's wrong to say that that's  
16 the value of the wood because it ignores the fact that  
17 it's being used to recompense the retailers of the  
18 furniture, the truckers who transport the furniture and  
19 so forth.

20 The second point I made on page 74 on  
21 drafting this statement was that when you talk about  
22 benefits it's easy to get mushy unless you try to adopt  
23 a fairly rigorous theoretical perspective about what  
24 benefits really are.

25 And economists in the practice of



1 cost/benefit analysis, as I tried to suggest to you  
2 yesterday, try to define benefits as the increase in  
3 aggregate consumption or aggregate income available to  
4 the people in the target group, in this case the  
5 residents of Ontario, and I would emphasize that by  
6 that I mean the total true national income that I was  
7 talking about yesterday.

8 On the top of page 75 I point out that  
9 the benefits of wood to Ontario should not be viewed as  
10 people working in the mills, but they should be viewed  
11 as -- a useful way of looking at it is that the extra  
12 income that people can earn from working in the mills  
13 rather than their best alternative opportunity is  
14 certainly part of the value of wood, but it's not their  
15 total income.

16 MADAM CHAIR: Excuse me, Dr. Muller.

17 DR. MULLER: Yes.

18 MADAM CHAIR: Did you think that the  
19 assumption you made that the value of wood from the  
20 production of it should stop at the logging -- should  
21 stop at the mill door, I think that was the assumption  
22 in your analysis, that you would put value on --

23 DR. MULLER: In my cost/benefit analysis?

24 MADAM CHAIR: Yes, that the value would  
25 stop once it was cut or once it was delivered to the

1 mill door. Do you think that is a very orthodox or  
2 conservative sort of assumption; in other words,  
3 ignoring the pulp and paper industry which has some  
4 connection to logging?

5 DR. MULLER: I don't think it's an  
6 excessively conservative assumption. I do think it's  
7 an orthodox assumption in the sense that it's the kind  
8 of assumption that most economic analysts would begin  
9 with.

10 The reason I say that is that we are --  
11 we were considering in the cost/benefit study the value  
12 of another cord of wood drawn from a particular forest  
13 management unit or perhaps even a particular spot in a  
14 particular forest management unit.

15 Now, there is lots of wood in Ontario, as  
16 you know, and there's lots of wood -- there's lots of  
17 cases in which the maximum allowable depletion on  
18 forest management units exceeds the amount that's  
19 actually being harvested. So if you don't take one  
20 particular cord of wood from one particular area, it's  
21 likely you can take it from some other area.

22 Now, if you're making decisions with  
23 respect to a particular forest management unit located  
24 somewhere, a hundred kilometres from a mill, what  
25 you're really trying to do is decide whether you should

1 harvest the cord of wood from this particular unit or  
2 whether you should let the mill harvest its wood from  
3 somewhere else.

4 And this anticipates my argument a little  
5 bit, but if the mill is only paying \$25 a cord for wood  
6 at it's gate -- sorry, \$25 a cubic metre for wood at  
7 its gate, then that indicates that the wood is only  
8 worth that much to them.

9 If you provide a cubic metre of wood from  
10 your forest management unit, you deliver it to the  
11 mill, it's worth \$25 to them. If you don't deliver to  
12 them, then they'll get it from another source. And  
13 I've just tried to stress that there are other sources  
14 around.

15 So I don't think it's an inappropriate  
16 way of assigning value to wood when you're talking  
17 about whether or not to conduct intensive forestry or  
18 extensive forestry on a particular management unit or  
19 when you're talking about the decision to harvest or  
20 not to harvest a unit. I think that's the value of  
21 wood you should be looking at and comparing with the  
22 costs of harvesting on a particular site.

23 MADAM CHAIR: Well, the Board is going to  
24 be a little harder to convince on that point, but we'll  
25 be discussing it more over the next few days.

1 MR. MARTEL: Have you read Mr. Marek's  
2 material?

3 DR. MULLER: No, I haven't, but I would  
4 be happy to be directed to some specific area.

5 MR. MARTEL: No. Mr. Marek suggested, I  
6 think, I don't want to misquote him or paraphrase him  
7 wrongly, that we should use intensive management in  
8 some areas to try -- closest to the mill - and his  
9 figure was 50 or 60 miles - he would like to really do  
10 intensive management then and be very deliberate about  
11 it and then allow the rest to pretty well go its own  
12 way through natural regeneration. I think there were a  
13 a few things, but it would be much more --

14 MS. SWENARCHUK: Well, he'd be cutting.

15 MR. MARTEL: He would cut, but he  
16 wouldn't spend a lot of money on regeneration.

17 But does that work in with what you're  
18 saying, that you can do a lot of intensive management,  
19 that allows you to do other things and the intensive  
20 management gets it close enough to maybe --

21 DR. MULLER: The sentiments which you  
22 expressed are entirely consistent with the ones that I  
23 wish to express, that is to say, that wood close to a  
24 mill, established mill, tends to have a higher value  
25 because it costs less to transport it to the mill. So



1       it may easily be the case.

2                   MR. MARTEL: But it would cost more to  
3 regenerate?

4                   DR. MULLER: Well, that's right. Because  
5 the wood on the stump has a higher value because it's  
6 next door to the mill, that higher value allows you to  
7 spend more in cultivating and you can still make a  
8 profit, so to speak.

9                   It's the wood that's growing on less  
10 fertile sites, that's further away from the mill,  
11 that's more inaccessible, all of that wood has a lower  
12 value on the stump and, consequently, investing in  
13 trying to produce more of it or even investing in  
14 trying to cut it down may be an inappropriate  
15 investment.

16                   So I believe that the thrust of what I'm  
17 saying is perfectly consistent with what you outlined  
18 to be the thrust of Marek's testimony, that is to say,  
19 there may easily be a reason in which intensive  
20 management is appropriate.

21                   I would argue that those are areas in  
22 which you expect to see very high values of wood on the  
23 stump, and when it comes to cost/benefit analysis, I  
24 have a couple of pictures which show you the way in  
25 which values change a little bit, which may help

1 elucidate some of these points.

2 MADAM CHAIR: So is your evidence, Dr.  
3 Muller, that the assumptions you're using for your  
4 cost/benefit analysis - and we'll get to how you did  
5 that - that this type of analysis is to be applied only  
6 at a local management unit level and that in fact you  
7 aren't addressing Hynard's argument of the overall  
8 provincial benefits of the forest industry versus  
9 government expenditures?

10 DR. MULLER: I think this is really quite  
11 a critical point, and that's one reason why I tried to  
12 stress in my little exhibit, No. 1702 -- no, 1703, the  
13 little picture of alternative time paths of wood  
14 harvesting.

15 I think we're talking about a small --  
16 well, we're talking about increases and decreases in  
17 wood production, we're not talking about completely  
18 eliminating the harvest and we're not talking about --  
19 well, that is what we're talking about, we are talking  
20 about varying the amount of wood, we are not talking  
21 about eliminating cutting altogether all over the  
22 entire Province of Ontario. And it's for that reason I  
23 do think it's appropriate to look at the price of the  
24 wood at the mill.

25 MS. SWENARCHUK: Q. Borrowing from Madam

1 Chair's concern, Dr. Muller, how in your view should  
2 the multiplier effect of use of a natural resource be  
3 treated with regard to forest resources?

4 This is a large question, but since it's  
5 been raised.

6 A. Yes, Ms. Swenarchuk. I think that it  
7 might be useful when you're submitting our responses to  
8 interrogatories to include our response to CASIT  
9 Interrogatory No. 11.

10 Q. Is this the CAIF response?

11 A. Pardon?

12 Q. Is this the CAIF response?

13 A. This is not the CAIF response. If  
14 you want it, that's No. 12.

15 Q. Very well, we'll do that.

16 MS. SEABORN: I'm sorry, what is the  
17 number of Canadian Single Industry Towns?

18 MS. SWENARCHUK: No. 11.

19 DR. MULLER: Sorry, the CAIF response is  
20 No. 14.

21 MS. SWENARCHUK: Q. And could we look at  
22 the response to No. 11 now.

23 DR. MULLER: A. The question of using  
24 multiplier --

25 MADAM CHAIR: Excuse me, Dr. Muller, I

1 don't have my --

2 MS. SWENARCHUK: It's in the box Mr.

3 Pascoe said.

4 MADAM CHAIR: Thanks, Mr. Pascoe.

5 MS. SWENARCHUK: And I'll just read the  
6 question.

7 MADAM CHAIR: Can we just give this an  
8 exhibit number now, Ms. Swenarchuk. Is that a problem?

9 MS. SWENARCHUK: No, not at all.

10 MADAM CHAIR: Exhibit 1704. Would you  
11 describe it, please.

12 MS. SWENARCHUK: This is a response to  
13 Interrogatory No. 11 submitted by the Canadian  
14 Association of Single Industry Towns, and presumably  
15 the exhibit should include both the question and the  
16 answer.

17 ---EXHIBIT NO. 1704: CASIT Interrogatory Question No.  
18 11 and response thereto by FFT  
Panel No. 7.

19 MADAM CHAIR: Sorry, Dr. Muller.

20 DR. MULLER: What does the question say?

21 MS. SWENARCHUK: Q. I'll just read the  
22 question. It refers first of all to No. 10 and then  
23 says:

24 "How do you deal with the spinoff  
25 ratio of resource-based jobs to service



1 sector jobs depending on them?

2 Furthermore, have you made any

3 calculation of what that ratio might be?"

4 A. And the comment that we made in

5 response was counting the benefits -- counting as

6 benefits these jobs which are spun off the forest

7 industry as an example of what's known as including

8 secondary benefits in benefit/cost analysis.

9 And I go on in the response to point out

10 that we haven't used the term spinoff ratio, we have

11 dealt with it both in our statement on pages 72 to 77,

12 and I also point out that the Treasury Board's

13 benefit/cost analysis guide, which I'm going to draw

14 your attention to in a few moments or perhaps tomorrow

15 morning, contains some comments about the use of

16 multiplier analysis.

17 Spinoff ratio, I interpret the term

18 spinoff ratio to mean the use of multiplier analysis in

19 this context.

20 The Treasury Board's benefit/cost

21 analysis guide makes the statement:

22 "The problem with using multipliers or

23 calculating secondary benefits in

24 circumstances where resources are

25 unemployed is that in benefit/cost

1 analysis one needs to eliminate  
2 consequences which are common to  
3 alternative courses of government  
4 action."

5 And we go on to develop an example in  
6 which public expenditures could be used either to  
7 finance silvicultural expense or to subsidize, shall we  
8 say, local recreation or health services.

9 And the point that's being made is that  
10 any of these alternatives would have increased local  
11 spending and created spinoff jobs and, therefore, it's  
12 inappropriate to count this job spun off the forestry  
13 support as benefits that you wouldn't have if indeed  
14 the alternatives to spend the money on something else  
15 and also generate spinoff jobs.

16 MR. MARTEL: What happens if you didn't  
17 have the town though?

18 DR. MULLER: Sorry?

19 MR. MARTEL: What happens if you didn't  
20 have the town, you'd have the money, but if you didn't  
21 have the infrastructure or the community to put that  
22 money into health benefits, recreational benefits that  
23 you would otherwise use, you might end up without the  
24 town.

25 MADAM CHAIR: You could spend it in

1 Toronto.

2 DR. MULLER: Well, you could spend it  
3 in -- you could spend the money in any other northern  
4 town.

5 MR. MARTEL: That's providing you had  
6 jobs for them when they came to that town.

7 DR. MULLER: Well, what I'm saying is  
8 that the provision of spending money on hospitals, for  
9 example, provides jobs.

10 MR. MARTEL: Yes, but all I'm saying is  
11 if you don't have a town because there's not jobs to  
12 start with, you're not going to spend money in a  
13 hospital that is non-existent.

14 The difficulty with northern Ontario, if  
15 I might say, it's not like southern Ontario, when a  
16 town closes down the job -- the one industry, the  
17 town's wiped out, you can't drive to work the next  
18 morning.

19 It makes it -- I mean, these things that  
20 people talk about, you get laid off in Chatham and you  
21 can go across to the next town and maybe find a job,  
22 but if you get laid off in Terrace Bay or Long Lac,  
23 it's pretty hard to commute to work then, it's not only  
24 hard, it's impossible. So your infrastructure is  
25 destroyed of any community you have.

1                   I don't know if that's taken into the  
2       calculations, Doctor, I mean, that's what bothers me.  
3       I'm not sure people take that as an added problem that  
4       must be weighed.

5                   DR. MULLER: I think that the  
6       difficulties which you cite can formally be  
7       incorporated into the analysis and, in particular, what  
8       I would say is that this is an example of Example No. 5  
9       I think it was, that I had in my set of examples last  
10      time.

11                  That is, in my early examples I developed  
12      an example on which labour was earning \$4 an hour in  
13      its current occupation and its alternative was to earn  
14      \$5 an hour in some other occupation.

15                  What's going on in the circumstances you  
16      describe is that people have to move, if we close  
17      down -- if we close down the industry and remember, I  
18      don't admit that we are closing down the industry. If  
19      a mill has to close, then people have to leave and they  
20      certainly may suffer in the process of movement.

21                  Now, even if they were to get jobs in  
22      some other locality, it's not clear whether the wage  
23      rate would be the same as the present location and it  
24      might be higher or it might be lower, and if it is  
25      lower then they have certainly lost wages, and they



1 have certainly incurred expenses in moving, and they've  
2 certainly -- they certainly may incur losses in the  
3 sale of their house, as you pointed out earlier.

4 I would like to stress that comparing  
5 loss -- comparing lost income and comparing lost value  
6 of houses poses some technical difficulties which have  
7 to be addressed carefully when you do it, but it's  
8 certainly true that people who have to move suffer  
9 these losses. These losses can be formally  
10 incorporated in a cost/benefit analysis.

11 Having said all that, I think it's still  
12 true, is it not, that there are people in the world who  
13 move to one community and then expect to move somewhere  
14 else.

15 I have read studies which argue that the  
16 majority of construction workers in the Maritimes, when  
17 not employed in the Maritimes, wind up being employed  
18 in Ontario. That is, there are people - I'm not making  
19 any statement about the total percentage of the labour  
20 force - there are people whose way of life involves  
21 moving location fairly frequently.

22 MS. SWENARCHUK: Q. Dr. Muller, just  
23 picking up from the earlier statement that you made  
24 several times, no one's talking about closing down the  
25 industry totally, what in your view would be the impact

1 on job provision of incorporating the forest management  
2 unit level, the type of economic analysis that you're  
3 advocating including the valuation of wood as you have  
4 specified that.

5 What would be the practical result of  
6 that? Do you assume, for example, that there would  
7 necessarily be --

8 MR. FREIDIN: I'm just wondering whether  
9 the witness can answer that question without being led.  
10 I'd like to hear what -- I think it's a good question,  
11 but I want to hear his evidence without suggestions  
12 about what the answer might be.

13 MS. SWENARCHUK: I would appreciate an  
14 opportunity to frame my question more specifically.

15 Q. Do you assume in that instance, Dr.  
16 Muller, that job loss would necessarily occur?

17 A. Yes, Ms. Swenarchuk. I was silent  
18 mainly because I was trying to think of an answer.

19 Q. Yes. That yes did not mean you just  
20 answered yes to my question?

21 A. Absolutely, I did not answer yes to  
22 your question.

23 Q. So...

24 A. I think that the impact of including  
25 cost/benefit analysis in forest management decisions

1 would be to reduce the amount of intensive silviculture  
2 that was undertaken, that's my fundamental prediction,  
3 because I think that it would show that in a number of  
4 cases it was cheaper to get the same -- achieve the  
5 same goals by modified harvesting, at least coupled  
6 with natural regeneration.

7 The exact impact on regional employment  
8 would be difficult to redistribute, and I'm not an  
9 expert in using -- in actually going out and using  
10 input/output tables to estimate the impacts, that is to  
11 say, I have not published any articles of which I have  
12 done this.

13 I would point out that if application of  
14 cost/benefit analysis on a particular forest management  
15 unit led to the adoption of modified silvicultural  
16 techniques we would be building a few more roads or at  
17 least we would be accelerating the construction of some  
18 roads because, as people have pointed out, one of the  
19 costs of harvesting, using the modified techniques, is  
20 more road construction. Presumably that would involve  
21 some additional employment. It's also true that it  
22 probably would reduce the amount of labour employed in  
23 planting trees and seedlings.

24 Now, I have not made an explicit study of  
25 the source of the labour which is used in tree planting

1 operations, but it is my impression that a significant  
2 amount of that labour comes from student labour which  
3 is not necessarily based in the local northern  
4 community.

5 It seems to me that the amount of  
6 employment retained in harvesting and silvicultural,  
7 whatever silvicultural decisions were made, whatever  
8 silvicultural decisions were made would probably be  
9 sufficient to provide employment, local employment and  
10 employment of native groups if it were managed  
11 carefully.

12 The question to me was: What would be  
13 the impact on employment if we were to adopt the  
14 cost/benefit proposals in the document, and my short  
15 response is that I think that employment would still be  
16 retained, that there would be some impacts on  
17 employment, that certainly some of the employment  
18 affected would be employment of student labour that  
19 does have alternative jobs in the south, and I'm not  
20 prepared to go an awful lot further.

21 MADAM CHAIR: Thanks, Dr. Muller.

22 We're going to call it a day in a minute,  
23 but I would just leave you with this thought and we  
24 might pick up on it tomorrow morning.

25 I think you can tell from the Board's



1        comments that we feel generally your assumptions about  
2        the costs and benefits of timber versus non-timber  
3        activities, the assumptions have seemed to, in our  
4        minds, downplayed the benefits of timber and  
5        manipulated their cost to the fullest extent possible.

6                    It doesn't seem to us that you can look  
7        at an analysis of the value of timber and not look  
8        beyond what the value of an unprocessed log is.

9                    It seems to us to be a pretty central  
10       concern about your analysis.

11                   DR. MULLER: May I rephrase that just to  
12       see if I have understood you. You're concerned that we  
13       have deliberately minimized the value -- you're  
14       concerned that we have minimized the value of wood for  
15       the purposes of our analysis, and is it the case that  
16       you are concerned that we've done that deliberately in  
17       order to bias our conclusions in a particular  
18       direction?

19                   MADAM CHAIR: No, but I think you're  
20       trying to make the point, and the point can be made I  
21       think, that if you set an arbitrary limit on what the  
22       value of wood is then you can come up with very  
23       different conclusions. Then you could, if you set the  
24       true value of wood, would follow it through a stage  
25       farther than the simple logging of it.

1                   And I'm not saying that that doesn't make  
2                   sense at the management unit level, but this Board also  
3                   has to deal with the overall provincial impacts of the  
4                   costs and benefits of timber versus non-timber values.

5                   DR. MULLER: Well, Madam Chair, I'll try  
6                   to think a little bit.

7                   MADAM CHAIR: If you could address for us  
8                   why you wouldn't have included the value of wood as  
9                   being something more than its value in an unprocessed  
10                  state, I think that would clear it up.

11                  DR. MULLER: I'll do my best to come up  
12                  with some comments.

13                  MADAM CHAIR: Thank you.

14                  MR. MARTEL: I think it would be  
15                  beneficial -- you see, the difficulty is to try to get  
16                  a value of the other items to weigh it against the  
17                  value of wood, to try and get -- how you best allocate  
18                  the stuff.

19                  And I know for me the difficulty, and I  
20                  think people here have heard we ask it over and over  
21                  again, try to get that balance, what those things are  
22                  so that you can --

23                  I mean, much of the evidence so far is  
24                  that wood is the predominant factor out there and  
25                  everybody is arguing, but the other factors aren't

1 given enough weight.

2 And I don't think that's unfair, they're  
3 not given enough consideration and so on and people  
4 want that considered more. I think that's what people  
5 are trying to say.

6 But it's like trying to, you know, nail  
7 jelly to the wall. You've got all the facts on one and  
8 it's much easier to do in terms of value, wood, and so  
9 on, jobs created, the rest is much more difficult, and  
10 how does one get a handle on it in economic terms and  
11 what the spinoff is.

12 DR. MULLER: Well, I sympathize with the  
13 difficulty. What I would say is that I'm quite  
14 confident that the weight of cost/benefit practice is  
15 to go in the direction that I am suggesting.

16 Once you start giving substantial  
17 additional credit for all these other economic values  
18 of timber harvesting which you are referring to you're  
19 getting into an area which is, I would submit, almost  
20 as amorphous as the area of measuring willingness to  
21 pay for recreational benefits and so forth.

22 That is to say, we do have some fairly  
23 concrete market signals, we know that they're not  
24 perfect indicators of value, we know that in principle  
25 we can deviate from them in one direction or another

1       depending on the arguments we're dealing with.

2               My suggestion to the Board is simply that  
3       it's certainly pretty good to start with what the  
4       market signals are telling us and then be careful how  
5       much we deviate from them. I'll try to elaborate on  
6       that tomorrow.

7               MADAM CHAIR: Thank you, Dr. Muller. Dr.  
8       Morrison, see you tomorrow at nine.

9               MR. HANNA: How about Monday?

10              MADAM CHAIR: No, we won't be sitting on  
11       Monday but we will begin on Tuesday.

12              Is that a problem, Ms. Swenarchuk?

13              MS. SWENARCHUK: No.

14       ---Whereupon the hearing adjourned at 4:15 p.m., to be  
15       reconvened on Wednesday, February, 6th, 1991,  
      commencing at 9:00 a.m.

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